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ABSTRACT

The "Missouri Framework for Curriculum Development" is designed to provide school districts with a "frame" for building curricula based on the "Show Me Standards." The 73 "Show Me Standards" define what students should know and be able to do by the time they graduate from Missouri's public high schools. This guide begins with an explanation of the curriculum frameworks and the Show Me Standards, followed by an overview of health education and physical education in Missouri. Then, using a three-column format, five major strands of the health and physical education framework are described: (1) functions and interrelationships of systems; (2) health maintenance and enhancement; (3) risk assessment and reduction; (4) efficiency of human movement and performance; and (5) physical activity and lifetime wellness. A glossary of selected framework terms is provided. Two appendixes provide: examples of student work; and samples of health and physical education scope and sequence, developmentally appropriate physical education practices for children, and an exemplary physical education program. (Contains 37 references.) (ND)

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Health Education and Physical Education (Healthy, Active Living)

K-12

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Additional copies of *Missouri's Frameworks for Curriculum Development* may be ordered for Communication Arts, Fine Arts, Health Education/Physical Education, Mathematics, Science, Social Studies, and Integrating Curriculum. Check the Missouri Department of Elementary and Secondary Education (DESE) Home Page at: http://services.dese.state.mo.us/divinstr/curriculum/index.html

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PREFACE

In recent years, people from all walks of American life have participated in wide-ranging discussions about the direction of American education. While the situation is not as dire as some critics would have us believe, there is clearly a need for the review of current school organization, curricula, teaching practices and academic standards for students. As a result of these discussions, many legislators, educators, parents, and business leaders across the nation have initiated projects designed to develop high academic standards in safe learning environments for all students. The Show-Me State is no exception.

A Vision for Missouri Schools

In charting a path for the future of Missouri public schools, a common vision of what that future looks like is an essential first step. These schools must be physically and intellectually safe places for students. In these schools we believe all students are capable of learning and are challenged by high expectations. To meet this challenge, students must have a solid foundation of basic knowledge and skills. In addition, they must also be able to apply what they know.

To support the development of such students, teachers actively engage them in exploring, analyzing and understanding the world. Learning is interesting, hands-on and has real applications that are important to students. We recognize that students learn better, remember more, and develop deeper understandings of both knowledge and thinking processes if they have the opportunity to actively explore content and concepts. They view learning as the on-going process of extending and fine tuning their ideas and understanding through application. As a result, they take responsibility for their own learning, see its worth and make connections to the world beyond the classroom.

In addition, teachers and administrators in these communities see themselves as learners. They gain greater insight into their profession from their experiences among their students and in contact with their colleagues. They constantly seek to extend their knowledge and expertise, and frequently engage in professional development activities to deepen their professional skills and understanding.

The schools we envision also involve parents, business leaders and interested citizens in a multitude of educational activities. In turn, these people accept the responsibility for supporting and nurturing the learners within the school and see themselves as an important part of the learning community.

The Outstanding Schools Act

The passage of the Outstanding Schools Act in 1993 signaled Missouri's commitment to a public school system that purposefully prepares young people for the 21st century and assures our state's continued economic vitality. The Show-Me State has issued an ambitious, common-sense agenda by setting challenging academic standards for all students, by supporting professional development of educators to improve the quality of curriculum and instruction, and by providing more equitable funding for public education. In addition, the Outstanding Schools Act calls for increased accountability in improving student academic performance for all of Missouri's public school districts and school buildings. In summary, it addresses the following initiatives:

The Show-Me Standards–a set of 73 rigorous standards–intended to define what students should know and be able to do by the time they graduate from Missouri's public high schools;

Curriculum Frameworks–frameworks for curriculum development in communication arts, fine arts, health and physical education, mathematics, science, social studies and curriculum integration–intended to provide assistance to districts in aligning local curriculum with the Show-Me Standards;

A New Statewide Assessment–a new assessment system of performance events and multiple choice and short answer questions–intended to provide an indication of how well students are meeting the Show-Me Standards and how well they compare academically with other students across the nation;

Professional Development for Educators–one percent of the local district's basic state aid and one percent of the state educational budget to be set aside to support professional development–intended to improve student performance through improving the performance of educators; and

Professional Standards for New Educators–professional standards defining what graduating pre-service teachers should know and be able to do as certificated Missouri teachers–intended to ensure that there is a strong link between teacher preparation and the expectations of the school community.

Strategies for Including All Students

We believe virtually all students are able to learn, even though all students are not succeeding in school. Many of them fall behind and leave school before graduation. These strategies help all students become more engaged in learning:

- Use a multisensory approach to teaching and learning, including auditory, visual and hands-on techniques
- Present concepts in several ways, linking them to what students already know and checking frequently for understanding
- Model learning strategies and encourage students to talk about their own thinking and learning processes
- Teach students how to organize their thoughts using drawings, charts, outlines, thumbnail sketches, and computer generated flowcharts, spread sheets, and databases, etc.
- Encourage students to use technology as a user-friendly tool for learning
- Use questions and approaches that require inquiry, problem solving and the synthesizing of ideas
- Provide equal opportunities for all students to participate in class activities
- Adapt materials to accommodate students with special needs
- Provide real-life and work applications of what students should know and be able to do

Technology in Missouri Education

The Outstanding Schools Act also provides funding through technology grants for districts to obtain and access the latest technologies. The Show-Me Standards emphasize understanding and use of technology as a tool for learning, and *Missouri's Frameworks for Curriculum Development* suggest many ways to incorporate the use of technology in the classroom. Because students learn and demonstrate knowledge in a variety of ways, technologies can help teachers accommodate the learning and presentation styles of each student, keep students on task, provide individualized assistance and support students who must be absent from class.

Technology also plays a major role in adequately preparing students for continuous learning and for the workplace. More households are becoming dependent on technology (such as subscribing to on-line banking and informational services and operating computers, VCRs, CD-ROMs and voice mail). Growing numbers of jobs require an understanding or use of technology. In fact, we cannot imagine the impact technology will have on the lives of our children and grandchildren.

An important outgrowth of technology in our schools is that it may also enhance the local economy by encouraging schools and communities to share technologies and training. Through the Outstanding Schools Act, our students and other community members will have opportunities to become technologically literate.

The Missouri School Improvement Program

The Missouri School Improvement Program (MSIP) provides additional support to these measures by requiring districts to have a long-range plan for ongoing curriculum development and revision, to develop written curriculum guides for all curricular areas, and to implement the stated curriculum. In the second cycle of reviews (1996-2001), MSIP teams will evaluate whether a district's written curriculum addresses the Show-Me Standards. Curriculum guides for at least one content area must be revised to reflect the Show-Me Standards one year after the adoption of *Missouri's Frameworks for Curriculum Development* by the State Board of Education. Guides for the six content areas contained in the frameworks must be revised to address the Show-Me Standards by the start of the 2000-2001 school year. In planning for curriculum development and revision, districts may wish to consider the Department's schedule for implementation of the new assessment system:

Mathematics	Spring 1997
Communication Arts	Spring 1998
Science	Spring 1998
Social Studies	Spring 1999
Health/Physical Education	Spring 2000
Fine Arts	Spring 2000

The first administrations of the mathematics, communication arts, and science assessments will be voluntary. Districts will be required to administer the new mathematics assessment in 1998 and the new communication arts and science assessments in 1999. At the time each test is required, the *Missouri Mastery and Achievement Test* (MMAT) will no longer be used to collect state achievement data. The remaining subject areas will be required as noted in the above list. Important curricular areas not included in the state assessment, such as foreign languages and practical arts, will find that the Show-Me Standards encompass knowledge and skills that are applicable for their students as well. In fact, the Show-Me Standards should be integrated throughout the entire K-12 curriculum so that all high school graduates will be better prepared to meet the challenges of the 21st century.

The Show-Me Standards

The Outstanding Schools Act requires that the State Board of Education oversee the development of "not more than 75 academic performance standards." The Show-Me Standards, developed over a period of two years with input from teachers, school officials and citizens, are the result of this mandate. There are **40** ***knowledge (content) standards*** that provide a solid foundation of knowledge in communication arts, fine arts, health and physical education, mathematics, science, and social studies.

Business and higher education communities have pointed out that, in general, students are graduating with some factual knowledge, but they are not skilled in abstract thinking, problem solving, and working cooperatively or collaboratively. Students need practice in integrating, applying and transferring what they are learning in one context or content area to new and different situations. To remedy this, the Missouri teachers who developed the Show-Me Standards proposed **33** ***performance (process) standards***. These standards include important process skills that students should master in order to successfully gather, analyze and apply information and ideas; communicate effectively within and beyond the classroom; recognize and solve problems; and make decisions and act as responsible members of society. (The Show-Me Standards follow this Preface.)

While intended to establish higher expectations for **all** of Missouri's students, the 73 Show-Me Standards do not represent everything a student should or will learn. Graduates who meet these standards, however, should be well-prepared for further education, work, and civic responsibilities.

The Department of Elementary and Secondary Education believes that the preservation of local control is a hallmark of the Outstanding Schools Act. Local school districts have the authority, the ability and the resources to develop rigorous and challenging curriculum that will prepare their students to be successful in the 21st century. The Department's role is to support districts in this endeavor, helping them carry out this task by offering technical assistance, professional development opportunities, and new technologies. Each school district must determine how its curriculum will be structured and which methods to use to implement that curriculum in the classroom. We believe that local educators, parents, employers, and community leaders know best how to incorporate the Show-Me Standards into their districts' curricula to meet the needs of their students.

Missouri's Frameworks for Curriculum Development

Missouri's Frameworks for Curriculum Development in communication arts, fine arts, health and physical education, mathematics, science, social studies, and curriculum integration acknowledge that teachers will bring the vision, ideals and principles of the Show-Me Standards into their classrooms in exciting and innovative ways. The role of the frameworks is to provide districts with a "frame" for building curricula using the Show-Me Standards as a foundation. District curriculum guides furnish the interior curriculum plan and appropriate instruction. District guides probably are not organized in the same way as the six content frameworks. The good news is that they do not have to be. In fact, although the frameworks use a three-column format ("What All Students Should Know," "What All Students Should Be Able to Do," and "Sample Learning Activities"), the committees who wrote the frameworks approached their task in ways that best appeared to fit their particular content areas. For example, the social studies framework is organized around important questions; communication arts, around the four goals of the Show-Me Standards; and science, around the knowledge standards. Each group of framework writers had valid reasons for their organizational plan, just as curriculum developers in each district will and should. Similarly, local curriculum guides should be in a format that is the most useful for the district's teachers.

Curriculum Frameworks Are Resources–

- To assist districts in developing curriculum consistent with the Show-Me Standards
- To indicate what students should know and be able to do by the end of grades 4, 8 and 12.
- To support teachers in providing high-quality learning experiences for **all** students
- To suggest examples of hands-on, real-world activities and classroom performance assessments
- To suggest effective learning and teaching strategies supported by research and practice
- To initiate discussions concerning curriculum integration within and across classrooms
- To provide examples of quality student work requiring knowledge and application of that knowledge

Curriculum Frameworks Are Not–

- Not required by law for district use
- Not detailed lesson plans or curricula
- Not items on which all students must be tested
- Not directives for uniform programs or textbook adoption
- Not mandates for inclusion of specific teaching methods or programs
- Not a format that all district curriculum guides must follow

As the writers worked on developing the frameworks, they asked themselves questions that are very similar to what local curriculum developers must ask: How do we see the Show-Me Standards playing out in this content area and across the curriculum? Are there important areas addressed by the standards that are not included in our current curriculum and how should we address these? Are we presenting a balanced curriculum, K-12? Are we giving students opportunities to apply in real situations the knowledge they have learned? How will the emphasis on what students know and are able to do change instruction, or will it? Do our assessments model and support the taught curriculum? In essence, the framework writers have tried to make the work of local curriculum committees easier by establishing a relationship between the Show-Me Standards and the K-12 curriculum in the six content areas. For some districts this step is unnecessary; for others, it will help give much needed direction.

In addition, the frameworks provide indicators of what students should know and be able to do by the end of grades 4, 8 and 12. They contain suggested resources, discussions of issues and current practices, and examples of quality student work. Many of the suggested activities encourage an integrated, interdisciplinary curriculum. In fact, the final section of *Missouri's Frameworks for Curriculum Development* provides a discussion of how districts might begin to explore the advantages of curriculum integration.

Meeting the Challenge

We know that, in most cases, the level of expectation and the interest of the students determine the level of performance. When schools set high standards and provide access to meaningful curriculum for every learner, students and teachers flourish. Success for all students is not a dream but a reality.

With the advent of the 21st century, we are on the threshold of more life-changing events than we can ever imagine. Computers and technology are making our lives both more productive and more complex. The Internet, fax machines, fiber-optic networks, and voice mail are changing the ways we communicate and do business. Information on every topic is readily available at the push of a button. Two bread-winners per family are the norm rather than the exception. Workers can no longer select a particular career and expect to do the same job in the same way year after year. As citizens, we must be prepared to make important decisions which will affect the lives of future generations in positive ways. The challenge we face now is how to educate our children to be successful as individuals and as members of society in a world that most of their grandparents would not even recognize. Working together, we can do it. What an exciting time to be involved in the education of Missouri's students!

THE SHOW-ME STANDARDS

Authority for the Show-Me Standards: Section 160.514, Revised Statutes of Missouri, and the Code of State Regulations, 5 CSR 50-375.100

PERFORMANCE (PROCESS) STANDARDS

GOAL 1: Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.

Students will demonstrate within and integrate across all content areas the ability to

1.1 develop questions and ideas to initiate and refine research
1.2 conduct research to answer questions and evaluate information and ideas
1.3 design and conduct field and laboratory investigations to study nature and society
1.4 use technological tools and other resources to locate, select and organize information
1.5 comprehend and evaluate written, visual and oral presentations and works
1.6 discover and evaluate patterns and relationships in information, ideas and structures
1.7 evaluate the accuracy of information and the reliability of its sources
1.8 organize data, information and ideas into useful forms (including charts, graphs, outlines) for analysis or presentation
1.9 identify, analyze and compare the institutions, traditions and art forms of past and present societies
1.10 apply acquired information, ideas and skills to different contexts as students, workers, citizens and consumers

GOAL 2: Students in Missouri public schools will acquire the knowledge and skills to communicate effectively within and beyond the classroom.

Students will demonstrate within and integrate across all content areas the ability to

2.1 plan and make written, oral and visual presentations for a variety of purposes and audiences
2.2 review and revise communications to improve accuracy and clarity
2.3 exchange information, questions and ideas while recognizing the perspectives of others
2.4 present perceptions and ideas regarding works of the arts, humanities and sciences
2.5 perform or produce works in the fine and practical arts
2.6 apply communication techniques to the job search and to the workplace
2.7 use technological tools to exchange information and ideas

GOAL 3: Students in Missouri public schools will acquire the knowledge and skills to recognize and solve problems.

Students will demonstrate within and integrate across all content areas the ability to

3.1 identify problems and define their scope and elements
3.2 develop and apply strategies based on ways others have prevented or solved problems
3.3 develop and apply strategies based on one's own experience in preventing or solving problems
3.4 evaluate the processes used in recognizing and solving problems
3.5 reason inductively from a set of specific facts and deductively from general premises
3.6 examine problems and proposed solutions from multiple perspectives
3.7 evaluate the extent to which a strategy addresses the problem
3.8 assess costs, benefits and other consequences of proposed solutions

GOAL 4: Students in Missouri public schools will acquire the knowledge and skills to make decisions and act as responsible members of society.

Students will demonstrate within and integrate across all content areas the ability to

4.1 explain reasoning and identify information used to support decisions
4.2 understand and apply the rights and responsibilities of citizenship in Missouri and the United States
4.3 analyze the duties and responsibilities of individuals in societies
4.4 recognize and practice honesty and integrity in academic work and in the workplace
4.5 develop, monitor and revise plans of action to meet deadlines and accomplish goals
4.6 identify tasks that require a coordinated effort and work with others to complete those tasks
4.7 identify and apply practices that preserve and enhance the safety and health of self and others
4.8 explore, prepare for and seek educational and job opportunities

KNOWLEDGE (CONTENT) STANDARDS

Communication Arts

In Communication Arts, students in Missouri public schools will acquire a solid foundation that includes knowledge of and proficiency in

CA 1 speaking and writing standard English (including grammar, usage, punctuation, spelling, capitalization)
CA 2 reading and evaluating fiction, poetry and drama
CA 3 reading and evaluating nonfiction works and material (such as biographies, newspapers, technical manuals)
CA 4 writing formally (such as reports, narratives, essays) and informally (such as outlines, notes)
CA 5 comprehending and evaluating the content and artistic aspects of oral and visual presentations (such as storytelling, debates, lectures, multimedia productions)
CA 6 participating in formal and informal presentations and discussions of issues and ideas
CA 7 identifying and evaluating relationships between language and culture

Fine Arts

In Fine Arts, students in Missouri public schools will acquire a solid foundation that includes knowledge of

FA 1 process and techniques for the production, exhibition or performance of one or more of the visual or performed arts
FA 2 the principles and elements of different art forms
FA 3 the vocabulary to explain perceptions about and evaluations of works in dance, music, theater and visual arts
FA 4 interrelationships of visual and performing arts and the relationships of the arts to other disciplines
FA 5 visual and performing arts in historical and cultural contexts

Health/Physical Education

In Health/Physical Education, students in Missouri public schools will acquire a solid foundation that includes knowledge of

HP 1 structures of, functions of, and relationships among human body systems
HP 2 principles and practices of physical and mental health (such as personal health habits, nutrition, stress management)
HP 3 diseases and methods for prevention, treatment and control
HP 4 principles of movement and physical fitness
HP 5 methods used to assess health, reduce risk factors, and avoid high risk behaviors (such as violence, tobacco, alcohol and other drug use)
HP 6 consumer health issues (such as the effects of mass media and technologies on safety and health)
HP 7 responses to emergency situations

SHOW-ME STANDARDS

Mathematics

In Mathematics, students in Missouri public schools will acquire a solid foundation that includes knowledge of

MA 1 addition, subtraction, multiplication and division; other number sense, including numeration and estimation; and the application of these operations and concepts in the workplace and other situations
MA 2 geometric and spatial sense involving measurement (including length, area, volume), trigonometry, and similarity and transformations of shapes
MA 3 data analysis, probability and statistics
MA 4 patterns and relationships within and among functions and algebraic, geometric and trigonometric concepts
MA 5 mathematical systems (including real numbers, whole numbers, integers, fractions), geometry, and number theory (including primes, factors, multiples)
MA 6 discrete mathematics (such as graph theory, counting techniques, matrices)

Science

In Science, students in Missouri public schools will acquire a solid foundation that includes knowledge of

SC 1 properties and principles of matter and energy
SC 2 properties and principles of force and motion
SC 3 characteristics and interactions of living organisms
SC 4 changes in ecosystems and interactions of organisms with their environments
SC 5 processes (such as plate movement, water cycle, airflow), and interactions of Earth's biosphere, atmosphere, lithosphere, and hydrosphere
SC 6 composition and structure of the universe and the motions of the objects within it
SC 7 processes of scientific inquiry (such as formulating and testing hypotheses)
SC 8 impact of science, technology, and human activity on resources and the environment

Social Studies

In Social Studies, students in Missouri public schools will acquire a solid foundation that includes knowledge of

SS 1 principles expressed in the documents shaping constitutional democracy in the United States
SS 2 continuity and change in the history of Missouri, the United States and the world
SS 3 principles and processes of governance systems
SS 4 economic concepts (including productivity and the market system) and principles (including the laws of supply and demand)
SS 5 the major elements of geographical study and analysis (such as location, place, movement, regions) and their relationships to changes in society and environment
SS 6 relationships of the individual and groups to institutions and cultural traditions
SS 7 the use of tools of social science inquiry (such as surveys, statistics, maps, documents)

OVERVIEW OF HEALTH EDUCATION AND PHYSICAL EDUCATION

Rationale for Health Education and Physical Education

Research is clear. The healthy, physically active child is more likely to be academically motivated, alert and successful in school and more likely to establish habits of behavior that will foster good health throughout life thereby enhancing the quality of life.

More than twenty-five major reports published recently give a consistent and clear message: children and youth who are physically, emotionally and socially well are better able to benefit from learning experiences provided in school.

Health behaviors, the most important predictors of current and future health status, are influenced by a variety of factors that include awareness and knowledge of health issues, skills necessary to develop healthy behaviors, and opportunities to practice the behaviors.

A major threat to economic competitiveness in our state and in the nation is the health status of the work force. Alcohol, tobacco and other drug use; low levels of physical fitness; poor nutrition; accidental injuries; and non-job related stress contribute to lowered health status. Poor worker health status results in loss of work time and increased medical care and insurance costs to treat preventable disease as well as inhibiting the quality of life.

Because health behaviors are learned, they can be shaped and changed. Fostering healthy children is the shared responsibility of families, communities and schools. Planned, sequential, age and developmentally appropriate K-12 curriculum in health education and physical education is necessary for students to become physically educated and health-literate individuals thereby contributing to economic competitiveness and to an enhanced quality of life.

> *"It is the growing belief that any future advances made in improving the nation's health will not result from spectacular biomedical breakthroughs. Rather, advances will result from personally initiated actions that are directly influenced by the individual's health-related attitudes, beliefs, and knowledge. School health education and physical education can make valuable contributions in areas such as these and can play an important role in improving the quality of life."*
>
> -American Medical Association, 1990

Health education develops health literacy, "the capacity of an individual to obtain, interpret, and understand basic health information and services and the competence to use information and services in ways which are health enhancing." (Joint Committee on Health Education, 1990)

Physical education contributes to the development of a physically educated person who:

- Has learned skills necessary to perform a variety of physical activities
- Is physically fit
- Does participate regularly in physical activity
- Knows the implications of and the benefits from involvement in physical activities
- Values physical activity and its contributions to a healthful lifestyle (National Association for Sport and Physical Education, 1992)

A Comprehensive School Health Program can play a leading role in enabling students to lead healthy, active lives—now and in the future. The two curricular areas of a Comprehensive School Health Program, health education and physical education, contribute to becoming physically educated and developing health literacy. Quality programs provide students with opportunities to explore concepts in depth, analyze and solve real-life problems, work cooperatively on tasks that develop and enhance their conceptual understanding, and develop physical and social skills necessary for a healthy, active life.

PURPOSE OF FRAMEWORK

The Healthy, Active Living Curriculum Framework is based on the premise that becoming physically educated and developing health literacy in today's complex world is no less important than linguistic, mathematical and scientific literacy. It describes quality health education and physical education curricula that will help students develop a life-long commitment to healthy, active living.

It focuses on educating students regarding the importance of self-responsibility in achieving and maintaining a healthy, active lifestyle. It also focuses on the total self by addressing the intellectual, social, emotional and physical dimensions in addition to games and sport. It emphasizes health as a value in life and enhances critical thinking, decision making and problem solving skills.

While this framework addresses both health education and physical education, it is not meant to imply that either discipline can replace the other but rather both together can strengthen each other's program. Both disciplines share common purposes and various content-area emphases, particularly in the areas of health-related fitness, nutrition and weight management. Both use similar methodologies that focus on forming and maintaining healthy practices. They also provide the student with unique and fundamental knowledge, behaviors and skills necessary for a healthy, active life.

The most recent research, including the *National Physical Education Standards* developed by the National Association for Physical Education and Sport and *the National Health Education Standards* developed by the Joint Committee on National Health Education Standards, was used in developing this document. This document is not a comprehensive curriculum; it is a framework. Local curriculum developers are encouraged to use the above mentioned documents to further enhance their curriculum.

TERMINOLOGY IN THIS FRAMEWORK

Strand: a term used to designate the way the content is organized in this Healthy, Active, Living Curriculum Framework. The five strands are listed in the next section.

Defining Elements: specific topics included in each strand and listed under the title of each strand.

K-12 Content Overview: a description of the content included in each strand.

Grade Ranges: this framework does not address specific grade levels but does address the following grade ranges: K-4, 5-8, 9-12.

Sample Learning Activities: activities that are related to the Show-Me Standards. Educators will recognize that these examples are designed to engage students in learning but are only examples and not all inclusive of learning experiences that could occur in the classroom.. Creative teachers will be able to develop additional learning experiences. Some of the activities apply to more than one "Know" and "Do" statements.

Missouri's Academic Performance Standards: The Outstanding School Act of 1993 required work groups of teacher to identify Academic Performance Standards which define the knowledge and skills that Missouri students should be expected to demonstrate. The Knowledge (content) specific standards are incorporated into the statements of What all Students Should Know. They are referenced at the end of the statements, e.g, (HP I) The Performance (process) standards are referenced by numbers in brackets at the end of the statements of What All Students Should Be Able to Do, e.g. (1.4) refers to Goal 1, Standard 4.

MAJOR ORGANIZING STRANDS

Since the development of the *Physical Education Competencies and Key Skills in Missouri Schools* in 1987, physical education curricula in most Missouri schools has been organized around the following content or topic areas: Body and Spatial Awareness, Developmental Games/activities, Fundamental Movement Skills, Gymnastics. Personal Fitness/Healthy Lifestyle, Rhythms and Dance, Sports and Lifetime Activity Skills, and Aquatics (if facilities permit)

Since the development of the *Comprehensive Health Competencies and Key Skills for Missouri Schools* in 1990, health education curricula in most Missouri schools has been organized around the following content or topic areas: Safety and First Aid, Environmental and Community Health, Consumer Health, Disease Prevention and Control, Family Life/Human Sexuality, Nutrition, Personal Health, Mental Health and Substance Use and Abuse

In 1990, the Centers for Disease Control and Prevention (CDC) identified the following six behaviors that are primary causes of the majority of mortality and morbidity among young people today: behaviors that result in unintentional and intentional injuries, alcohol and other drug use, tobacco use, sexual behaviors that result in human immunodeficiency virus (HIV) and other sexually transmitted diseases, imprudent dietary patterns and inadequate physical activity

This framework incorporates the CDC health risk behavior categories as well as the traditional physical education and health education content areas but organizes the topics into the following strands with corresponding defining elements:

I. **Functions and Interrelationships of Systems**
   A. Body Systems
   B. Social Systems

II. **Health Maintenance and Enhancement**
   A. Personal and Family Health

   B. Nutrition Principles and Practices
   C. Consumer Health
   D. Life Management Skills

III. **Risk Assessment and Reduction**
   A. Disease Prevention and Control
   B. Injury Prevention and Safety
   C. Tobacco, Alcohol and Other Drugs (TAOD)
   D. Environmental Health

IV. **Efficiency of Human Movement and Performance**
   A. Fundamental Movement Skills and Games
   B. Sports Skills and Lifetime Activities
   C. Rhythms and Dance
   D. Principles of Human Movement

V. **Physical Activity and Lifetime Wellness**
   A. Personal Fitness/Wellness
   B. Responsible Personal and Social Behavior in Physical Activity Settings
   C. Injury Prevention/Treatment and Rehabilitation

These strands and their defining elements serve as organizers of what Missouri students should know and be able to do. They emphasize the use of knowledge by providing examples which are linked to Missouri's Show-Me Standards. Content is introduced at the lower grade levels, then reinforced and extended at successively higher levels of understanding.

Local curriculum developers will recognize that these strands lend themselves to being taught in an interdisciplinary manner and should decide, based on their staff and student population, where and how the specific content is taught. School districts may choose to continue using the traditional content areas as organizers rather than using the strands in this document. Of utmost importance is that the curriculum meets the needs of the students. Additionally, district curriculum guides need to reflect the emphasis on performance and a relationship to the Show Me Standards.

This framework, more than likely, will be utilized by many individuals in a school district, i.e, physical educators, class room teachers, science teachers, family and consumer science teachers and health teachers. Certification in Physical Education is required in Missouri schools to teach physical education classes.

ORGANIZATIONAL “ROAD MAP”

Number of Strand

Name of Strand

HEALTH EDUCATION **K-12**

I. FUNCTIONS AND INTERRELATIONSHIPS OF SYSTEMS

Defining Elements

A. Body Systems
B. Social Systems

K-12 Content Overview

Human beings depend upon systems in order to function. A system can be defined as a group of related parts that form a whole. Human systems include not only the complex, integrated processes of the mind and body but also systems of social interactions. Together these systems either strengthen or diminish one's physical, social, mental and emotional well-being.

Body systems are interrelated but they also have distinct functions of their own. Therefore, behaviors and habits which promote appropriate development of every system are crucial to the health of the entire organism (body). The study of body systems includes the structure, function and interrelationships of systems and factors that affect their functioning.

Social systems include relationships among peers, friendships, families and the community. Within these social systems are networking agencies and controls that strengthen, promote, or protect individual, family and community health. In order to function well within social systems, individuals need to be able to understand their own feelings and those of others. Social and communication skills also can enhance one's ability to function well within social systems. These include the ability to express one's self in a variety of situations, interpreting communication from others and representing thoughts and ideas while taking into consideration other viewpoints. A "health literate" individual also needs to realize that a variety of cultures co-exist within our country and that ethnic and multicultural traditions and beliefs can provide unique and challenging perspectives to one's study of social systems.

The content in this strand has not been included in the Science Framework but districts might choose to teach it as part of a science unit or course.

HEALTH EDUCATION **K-12**

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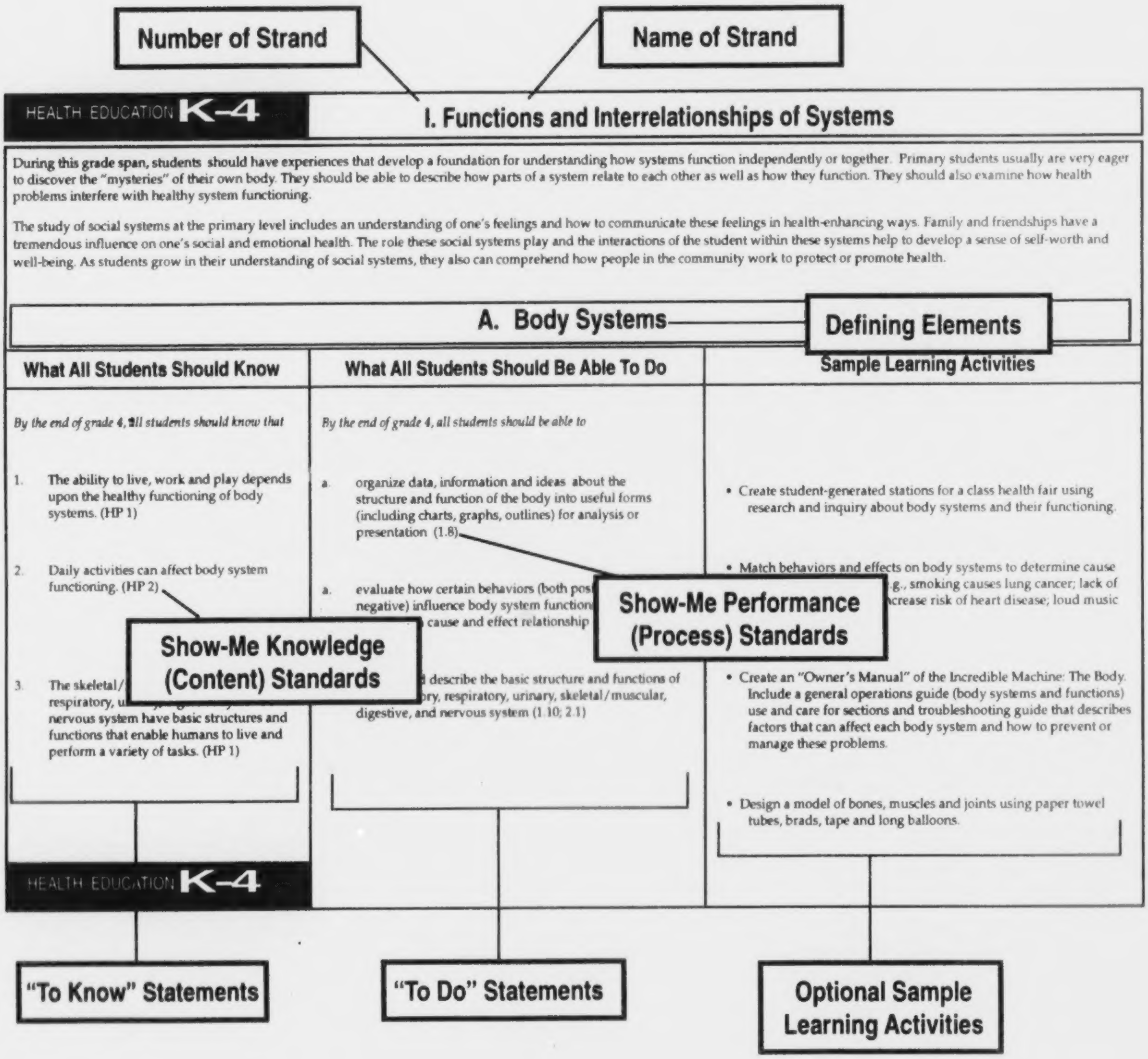
Number of Strand
Name of Strand
Defining Elements
Show-Me Knowledge (Content) Standards
Show-Me Performance (Process) Standards
"To Know" Statements
"To Do" Statements
Optional Sample Learning Activities

HEALTH EDUCATION **K–4**

I. Functions and Interrelationships of Systems

During this grade span, students should have experiences that develop a foundation for understanding how systems function independently or together. Primary students usually are very eager to discover the "mysteries" of their own body. They should be able to describe how parts of a system relate to each other as well as how they function. They should also examine how health problems interfere with healthy system functioning.

The study of social systems at the primary level includes an understanding of one's feelings and how to communicate these feelings in health-enhancing ways. Family and friendships have a tremendous influence on one's social and emotional health. The role these social systems play and the interactions of the student within these systems help to develop a sense of self-worth and well-being. As students grow in their understanding of social systems, they also can comprehend how people in the community work to protect or promote health.

A. Body Systems

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 4, all students should know that	*By the end of grade 4, all students should be able to*	
1. The ability to live, work and play depends upon the healthy functioning of body systems. (HP 1)	a. organize data, information and ideas about the structure and function of the body into useful forms (including charts, graphs, outlines) for analysis or presentation (1.8)	• Create student-generated stations for a class health fair using research and inquiry about body systems and their functioning.
2. Daily activities can affect body system functioning. (HP 2)	a. evaluate how certain behaviors (both pos negative) influence body system function cause and effect relationship	• Match behaviors and effects on body systems to determine cause .g., smoking causes lung cancer; lack of crease risk of heart disease; loud music
3. The skeletal/ respiratory, u nervous system have basic structures and functions that enable humans to live and perform a variety of tasks. (HP 1)	describe the basic structure and functions of ory, respiratory, urinary, skeletal/muscular, digestive, and nervous system (1.10; 2.1)	• Create an "Owner's Manual" of the Incredible Machine: The Body. Include a general operations guide (body systems and functions) use and care for sections and troubleshooting guide that describes factors that can affect each body system and how to prevent or manage these problems.
		• Design a model of bones, muscles and joints using paper towel tubes, brads, tape and long balloons.

HEALTH EDUCATION **K–4**

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I. FUNCTIONS AND INTERRELATIONSHIPS OF SYSTEMS

A. Body Systems
B. Social Systems

K-12 Content Overview

Human beings depend upon systems in order to function. A system can be defined as a group of related parts that form a whole. Human systems include not only the complex, integrated processes of the mind and body but also systems of social interactions. Together these systems either strengthen or diminish one's physical, social, mental and emotional well-being.

Body systems are interrelated but they also have distinct functions of their own. Therefore, behaviors and habits which promote appropriate development of every system are crucial to the health of the entire organism (body). The study of body systems includes the structure, function and interrelationships of systems and factors that affect their functioning.

Social systems include relationships among peers, friendships, families and the community. Within these social systems are networking agencies and controls that strengthen, promote, or protect individual, family and community health. In order to function well within social systems, individuals need to be able to understand their own feelings and those of others. Social and communication skills also can enhance one's ability to function well within social systems. These include the ability to express one's self in a variety of situations, interpreting communication from others and representing thoughts and ideas while taking into consideration other viewpoints. A "health literate" individual also needs to realize that a variety of cultures co-exist within our country and that ethnic and multicultural traditions and beliefs can provide unique and challenging perspectives to one's study of social systems.

The content in this strand has not been included in the Science Framework but districts might choose to teach it as part of a science unit or course.

I. Functions and Interrelationships of Systems

During this grade span, students should have experiences that develop a foundation for understanding how systems function independently or together. Primary students usually are very eager to discover the "mysteries" of their own body. They should be able to describe how parts of a system relate to each other as well as how they function. They should also examine how health problems interfere with healthy system functioning.

The study of social systems at the primary level includes an understanding of one's feelings and how to communicate these feelings in health-enhancing ways. Family and friendships have a tremendous influence on one's social and emotional health. The role these social systems play and the interactions of the student within these systems help to develop a sense of self-worth and well-being. As students grow in their understanding of social systems, they also can comprehend how people in the community work to protect or promote health.

A. Body Systems

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 4, all students should know that	*By the end of grade 4, all students should be able to*	
1. The ability to live, work and play depends upon the healthy functioning of body systems. (HP 1)	a. organize data, information and ideas about the structure and function of the body into useful forms (including charts, graphs, outlines) for analysis or presentation (1.8)	• Create student-generated stations for a class health fair using research and inquiry about body systems and their functioning.
2. Daily activities can affect body system functioning. (HP 2)	a. evaluate how certain behaviors (both positive and negative) influence body system functions in order to determine a cause and effect relationship (1.6)	• Match behaviors and effects on body systems to determine cause and effect relationship, e.g., smoking causes lung cancer; lack of exercise, high-fat diets increase risk of heart disease; loud music can affect hearing, etc.
3. The skeletal/muscular, cardiovascular, respiratory, urinary, digestive systems and nervous system have basic structures and functions that enable humans to live and perform a variety of tasks. (HP 1)	a. identify and describe the basic structure and functions of the circulatory, respiratory, urinary, skeletal/muscular, digestive, and nervous system (1.10; 2.1)	• Create an "Owner's Manual" of the Incredible Machine: The Body. Include a general operations guide (body systems and functions), a use and care section, and a troubleshooting guide that describes factors that can affect each body system and how to prevent or manage these problems.
4. The skeletal system provides a framework for the body. It protects internal organs, aids in movement and plays a role in blood cell formation. (HP 1)	a. plan effective oral and written communications regarding the body systems, their structure and functions for parents and other students (2.1)	• Design a model of bones, muscles and joints using paper towel tubes, brads, tape and long balloons.
5. The muscular system provides humans with the ability to move and perform a variety of physical tasks. Specialized	a. design and conduct introductory laboratory investigations regarding body system functions, e.g., heart rate and physical activity, strength of bones, volume of exhaled air, the effect of digestion on food (1.3)	• Create a classroom "The Inside Story of the Human Body" booklet.

I. Functions and Interrelationships of Systems

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
muscles help humans breathe, digest food, eliminate wastes and circulate blood. (HP 1) 6. The cardiovascular system includes the heart and blood vessels. The heart pumps blood to all body cells. The blood delivers oxygen and nutrients and removes carbon dioxide and other waste materials. (HP 1) 7. The respiratory system, which includes the air passage ways and lungs, takes in oxygen from the air, delivers it to the blood through the capillaries, and removes carbon dioxide from the blood. (HP 1) 8. The urinary system is part of the excretory system. It includes the kidneys, ureters, bladder and urethra. The urinary system filters waste from the blood and removes excess water. (HP 1) 9. The digestive system processes food into a form the body can use for growth and internal functioning. It also removes solid waste from the body. (HP 1)		• Conduct "mock" interviews with students who assume the role of body systems or body parts in order to interpret and respond to their understanding of structures and functions. • Construct a model of skin and its functions by ironing wax paper over a drawing of a body with bones, blood vessels and body organs. • Produce and evaluate walk-through learning stations about the body. • Simulate the absorption of food in small intestines through use of colored sugar water and dialysis tubing.
10. The human brain is part of the nervous system. The brain is important for all thought processes and for feelings, coordination and balance. The brain also monitors internal functioning including breathing and heart rate. (HP 1)	a. design and conduct field and laboratory inquiries by using the five senses to gather information, make observations, organize data, predict, summarize and draw conclusions about their personal and social environment (1.3)	• Using the scientific processes (gathering information, organizing data, predicting, summarizing and drawing conclusions), have students study the five senses through the construction of scent boxes, use of tactile socks, 2-point discrimination, tasting parties and a field study of the school's outdoor environment.

I. Functions and Interrelationships of Systems

B. Social Systems

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 4, all students should know that	*By the end of grade 4, all students should be able to*	
1. Social systems include functions and characteristics of family, friends and peer relationships. (SS 6)	a. identify characteristics of a healthy community and environment (1.6)	• Brainstorm the characteristics of a healthy community and environment, including the roles of individuals, agencies, etc. Simulate a community within the classroom. Assign roles, issues or problems, then work together to determine how to keep the community healthy.
2. Family, friends and peers can have a positive or negative influence on their well-being. (HP 2)	a. describe characteristics needed to be a responsible friend and family member (4.3)	• Identify through literature studies, e.g., *Grandma's Quilt, A Chair For My Mother* and journal writings how one's roles and responsibilities in a family affect self and others. • Use literature studies, e.g., *Molly the Brave and Me* and classroom discussions in order to study and form conclusions about friendships, their characteristics and the skills needed to form and maintain them.
3. Individuals have unique needs, strengths, abilities and responsibilities within culturally diverse social systems. (HP 2)	a. identify and discuss the effects of human actions toward people with different abilities, chronic illnesses or toward people with different ethnic and cultural backgrounds (2.3; 4.3) b. analyze the duties and responsibilities needed to be a contributing member of a social community (4.3)	• Read a story about an individual in a social situation, e.g., *Molly's Pilgrim, Amazing Grace, The Best Present, Number the Stars,* then describe feelings that one might have in that situation and actions that would be helpful. • Discuss and role-play positive actions toward individuals with physical and mental differences.
4. There are agencies such as the Department of Health, the fire department, police department, etc. that work to improve or maintain the health of the community. (SS 6)	a. identify appropriate health professionals who can provide assistance for specific health issues or problems (3.2)	• Make a map illustrating the locations of general health-care providers in a neighborhood or community with an accompanying chart which illustrates the type of services offered, e.g. fire, police, hospitals, water sanitation, and animal control.

I. Functions and Interrelationships of Systems

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
5. A component of effective communication is the ability to express needs, wants and feelings in health-enhancing ways. (HP 2)	a. identify confusing, difficult or threatening situations that may require the assistance of a trusted adult (3.1) b. identify and demonstrate appropriate ways to express needs, wants and feelings in a variety of situations (2.1) c. demonstrate ways to communicate care, consideration and respect of self and others (4.7)	• Complete journal writing or a "My Feelings" booklet to distinguish between types of feelings and situations in which they occur.
6. Effective communication includes verbal and non-verbal skills such as organizing thoughts, attentive listening, speaking clearly, interpreting non-verbal cues and avoiding put-downs. (CA 6)	a. use effective communication skills in the classroom and in simulated social situations (2.3) b. discuss and respond thoughtfully to others by exhibiting attentive listening skills (2.3)	• With a partner, use attentive listening skills to follow directions regarding the duplication of a graphic and a design using math manipulatives. Critique the results and determine how to improve the communication techniques used in each. • Develop a weekly social skills calendar, discuss behaviors that demonstrate each skill. Observe and evaluate the use of the skill during regular classroom activity.

I. Functions and Interrelationships of Systems

Applying the concept of systems during this grade span implies some understanding of the characteristics and dynamics of systems. Systems are examined not just to name the parts but to emphasize the interdependence of structure and function. Students can investigate the interactions among systems such as nervous, endocrine and immune, cardiovascular, respiratory and skeletal/muscular. They can apply the understanding of system interdependence to predict and analyze cause and effect relationships.

As middle school students begin to experience profound physical and emotional changes, it is important to understand what system changes are occurring, why changes are important in the human life cycle and what adaptations need to occur as a result of these changes.

Students during this grade span need an understanding that social systems function best in an environment of healthy interactions and interdependence. The interaction with family, friends and peers can influence one's behaviors. Likewise, the functions and interdependence among government and community health agencies can affect both individual and community well-being.

A. Body Systems

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What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 8, all students should know that	*By the end of grade 8, all students should be able to*	
1. Human body systems do not exist in isolation. Their optimal functioning depends upon their interdependence. When system failure occurs in one, it ultimately causes problems for other body systems. (HP 1)	a. apply knowledge of system interrelationships to predict health problems that could occur as a result of dysfunction (1.6; 1.10)	• Conduct an investigation using a mock scenario of Body Incorporated in which body systems must defend their roles and interrelationships with others to verify their importance.
2. The endocrine system is a system of ductless glands that secrete hormones into the blood. These hormones regulate many vital body functions, including growth (pituitary), reproduction (ovaries, testes), fight or flight responses (adrenal) and energy, metabolism (thyroid). (HP 1)	a. describe the physical changes that occur during puberty and the interrelationship among systems that cause these changes (2.3)	• Assume the role of the pituitary gland as chairperson for adolescent restructuring. Assign committee members to define their tasks during puberty, determine what systems must work together to accomplish these tasks and what adaptations can be made to ease "restructuring."

I. Functions and Interrelationships of Systems

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
3. The nervous system includes the brain, nerves and spinal cord. It is the communication center for the body, sending and receiving messages, regulating body functions and serving as the control center for the five senses and for emotions, speech, coordination, balance, and learning. Learning is influenced by the brain's short- term and long-term memory as well as learning styles and the environment. (HP 1)	a. analyze how learning is influenced by their memory, environment, learning styles and learning strategies (1.2)	• Use a model of the brain and diagram of how we learn (memory model) to describe what diminishes or enhances learning. • Conduct learning stations related to brain, nervous system and five senses functioning, e.g., role-play neuron transmission, try optical illusions, memory games.
4. The immune system is the body's defense team. It provides the body several lines of defense in order to fight infections and to build resistance to disease. (HP 1)	a. conduct research to answer questions and evaluate information about the immune system (1.2)	• Use CD-ROM and interactive computer technology (e.g., Adam, 3D Human Body) to identify and select body system information and data to support interrelationships.
5. The reproductive system includes male and female organs that release specific hormones responsible for the development of secondary sex characteristics and for the production and release of reproductive cells, allowing the opportunity for fertilization. (HP 1)	a. research the physical, emotional, social and intellectual changes occurring during puberty (1.2)	• Use reproductive and fetal development models to study the human life cycle from fertilization to birth. Assess understanding through objective test and/or model stations.
6. Humans follow a predictable pattern and sequence of reproduction, growth and development. (HP 1)	a. use a variety of resources and technologies in order to describe the structure, function and interactions of the endocrine, reproductive, nervous and immune systems (1.4)	• Hypothesize if there is a relationship between rate of growth and gender. Compare height and body ratios for males and females in a class and plot on growth charts. Find class mean for males and females. Interpret and summarize the results.
7. Fetal development and birth follows a sequential process. (HP 1)	a. sequence the process and events of the human life cycle including fertilization, fetal development and birth (1.8)	• Apply the study about the body systems to develop a review board game or brochure and/or model stations.

I. Functions and Interrelationships of Systems

B. Social Systems

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 8, all students should know that	*By the end of grade 8, all students should be able to*	
1. Relationships with peers can include both negative peer pressure and positive peer support. (HP 2)	a. differentiate between negative peer pressure and positive peer support when making informed and responsible decisions (4.1)	• Role-play a scenario in which both positive and negative peer pressure is used to reach a decision, e.g., cheating on a test. Discuss types of peer pressure experienced during adolescence and problem solve ways to deal with it.
2. Family, friends and culture can influence personal health practices. (HP 2)	a. evaluate ideas and perspectives regarding the influence friendships, peers, and acquaintances have on choices and behaviors during adolescence (1.6)	• Problem solve the following scenario: an agenda item before the City Council is whether the mall should be allowed to have a no-smoking policy. Class members will represent different viewpoints including an individual with asthma, a smoker, a restaurant owner, the County Health Department, the tobacco industry, and representatives from the American Lung Association, American Heart Association, etc. Conclude how public health agencies and community input can promote and protect health. Make a decision based on the arguments and perspectives heard. Analyze and evaluate the results of the solution considering ethics and societal responsibilities.
3. There are cooperative and social skills that facilitate working in group situations. (HP 2)	a. evaluate the importance of effective listening skills in building and maintaining friendships (2.6)	
4. All individuals have unique needs that should be considered in order to provide maximal opportunities to lead a healthy, productive life. (HP 2)	a. discuss problems with a trusted adult when encountering confusing or difficult situations (3.2)	
5. Defense mechanisms are learned behaviors that can be both constructive or destructive as a means for handling emotions. (HP 2)	a. solve problems related to the management of feelings experienced during stress, disappointment, separation or loss (3.5) b. analyze ways individuals can respond to the needs of people with varying abilities (4.3)	• Read and view various communications including resources found in the community regarding adolescent health concerns or a community health issue. Within groups or debate teams, demonstrate the cooperative and social skills necessary to organize and present ideas, opinions, and arguments regarding the topic.
6. Individuals have responsibilities within culturally diverse social systems. (SS 6)	a. analyze cultural influences on personal health practices and decisions (4.1)	• Given a scenario, identify defense mechanisms and propose more appropriate means of handling each situation. • Research how health practices can differ based on cultural influence e.g., Asians' use of meat as a side dish (less heart disease risk).

I. Functions and Interrelationships of Systems

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
7. Community networks and government agencies protect and promote individual and community health. (SS 6)	a. select appropriate resources in the community to determine their role in prevention and treatment of health-related problems (American Cancer Society, March of Dimes, American Heart Assoc., etc.) (1.7; 3.4; 3.7) b. examine the viewpoints and collaborative efforts of individuals, communities, and government regarding societal health issues in order to make decisions that are informed and responsible, e.g., recycling efforts, pollution controls (3.6; 4.6)	• Using an "Adopt the City" model, assume roles to analyze ways that community and government agencies affect health promotion and prevention.
8. Communication skills needed to foster healthy relationships with peers, adults and members of the community include: demonstrating care, consideration and respect of self and others, managing feelings caused by disappointment, stress, separation or loss and recognizing barriers to effective communication. (HP 2)	a. exchange information, questions and ideas while recognizing the perspectives of others. (4.1)	• Demonstrate through simulation, the communication skills needed to foster healthy relationships with peers, adults, and members of the community. Anticipate the impact of the message and consider its effect on the individual and others.

I. Functions and Interrelationships of Systems

Secondary students should have a fundamental understanding of the complexity of structures, functions and interdependence of human systems and the study of human genetics. The study of symptoms at this level focuses on the impact personal behaviors can have on healthy system functioning.

Much of what is known today about healthy system functioning is a result of technological advances and current research on the human body. In order to understand scientific developments, students need opportunities to use the scientific method and problem solving in more sophisticated lab situations.

As students begin to become more informed and independent and enter the world of work, they need to understand how to access and use the health-care system and to examine the role of individual rights versus the community regarding health issues. They also need opportunities to explore health-related careers and the academic preparation necessary to pursue them.

Maturing relationships with others and group dynamics have the ability to enhance or diminish personal health and well-being for young adults. Therefore, relationships and communication skills need to be addressed in the curriculum. In addition, as students mature, they are ready to learn advocacy roles and the importance of working collaboratively with others for healthy communities.

A. Body Systems

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 12, all students should know that	*By the end of grade 12, all students should be able to*	
1. Personal health behaviors can have both short and long -term consequences on the functioning of human body systems. (HP 2)	a. determine the impact both history and current practices have on the development of a healthy body (1.10)	• Design and conduct laboratory experiences such as a blood incompatibility lab, digestive enzyme effects on nutrients, lactic acid during exercise and muscle fatigue to study body functions.
2. The use of the scientific method and problem-solving help individuals to examine system functions and disease formation. (HP 1, 3)	a. recognize actual problems related to healthy system functioning encountered in daily living situations, e.g., stress, inactivity, high-fat diet, etc. Using appropriate technology and other resources, formulate logical and creative strategies to predict, prevent and solve health problems (3.1; 3.2)	• Conduct research to examine products and practices that may enhance or inhibit healthy system functioning. Formulate a hypothesis to support one's interpretation, e.g., effects of exercise on cardiorespiratory fitness levels.
3. Media, culture, technology and medical research impact and influence current health knowledge, behavior and practices. (HP 6)	a. design and conduct laboratory inquiries to test hypotheses and to form conclusions about body functions (1.3)	• In research teams, investigate medical advances related to a specific body system or genetics and fetal development. Share findings in a mock research conference or in a journal article describing how the findings have changed human functions and ability.

I. Functions and Interrelationships of Systems

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
4. The study of genetics can help individuals determine dominant and recessive traits and to understand the impact heredity has on system functions and disease formation. (HP 1)	a. conduct research to answer questions regarding dominant and recessive traits to determine inherited characteristics (1.2) b. evaluate information, ideas and arguments regarding current technological health advances and research to determine their perspective regarding a health-care issue, e.g., gene testing, organ transplants, etc; evaluate the results considering such issues as ethics (1.6; 3.8)	• With partners and through laboratory activities, e.g., PTC and taste testing paper, examine dominant and recessive traits then summarize class results. Use results to determine probability of inherited characteristics and confirm through punett square studies.

I. Functions and Interrelationships of Systems

B. Social Systems

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 12, all students should know that	*By the end of grade 12, all students should be able to*	
1. As individuals mature, the dynamics of relationships with family, group and the community become more complex and more important for well-being and stability in the world of work. (HP 2)	a. evaluate factors that affect personal and family health including heredity, lifestyles, economics and health-care access (1.6; 3.1)	• Given a health-related issue such as lack of physical activity in high school students, brainstorm solutions and select a plan of action, using group collaboration and consensus building. Verify whether a solution addresses the problem to which it was applied and evaluate the group dynamic processes used in solving the problem.
2. The rights of both individuals and the communities need to be considered when making societal health decisions. (HP 2)	a. evaluate the extent to which strategies such as shared decision-making, collaboration and consensus building enhance group dynamics (3.7)	• Identify a health issue pertinent to the community for which preventive services are inadequate, then write a persuasive letter to a local or state leader to request assistance in fulfilling the need. • Debate a public health issue such as serving alcohol to minors and the open container ordinance, taking into consideration an individual's rights versus community rights.
3. Barriers exist that inhibit individuals from leading independent, healthy and productive lives. (HP 2)	a. propose solutions to reduce the barriers that prevent individuals from leading healthy productive lives (3.6)	• Assume the role of an individual with a disability for a day (blindness, wheel-chair confined, etc.). At the end of the day, discuss feelings, frustrations, experiences and how society could improve the quality of life for individuals with disabilities. • Identify social and environmental barriers in school and public places for individuals with disabilities. Develop strategies to address the problem and include them in a report to the principal or a letter to the editor.

I. Functions and Interrelationships of Systems

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
4. An understanding of the health-care system includes how it functions, how to access it, how to use it to plan for future health security. (SS 6)	a. select and apply appropriate strategies to solve problems related to health-care systems, considering such issues as cost of experimental drugs, medical ethics, access issues; verify whether or not a solution addresses the problem to which it was applied (3.6; 3.8)	• Conduct a survey to determine the health-care needs and concerns of young adults; and classify the data groups, create visuals showing health agencies, providers and/or resources available in the community that address those needs and concerns; then present the information to different groups (e.g., health insurance companies, fitness clubs, community centers). • Using HIV/AIDS, teen pregnancy, indiscriminate use of antibiotics, or other current health problems, assume roles of a health-care panel that views the problems and ways to address them from a legal, actual governmental and global perspective.
5. Many careers exist in health-related professions. (SS 6)	a. explore and prepare for educational and job opportunities in health and fitness-related careers (4.8)	• Explore health-related career opportunities, then establish a plan of action to meet career goals.
6. Defense mechanisms are learned behaviors that can be both constructive or destructive as a means for handling emotions. (HP 2)	a. distinguish between constructive and destructive ways to deal with problems and emotions (3.1; 3.5)	• Given scenarios, identify defense mechanisms and propose more appropriate means of handling each situation.

II. HEALTH MAINTENANCE AND ENHANCEMENT

A. **Personal and Family Health**
B. **Nutrition Principles and Practices**
C. **Consumer Health**
D. **Life Management Skills**

K-12 Content Overview

Health literacy includes not only an understanding of how the body functions but also behaviors and decisions that will foster life-long health. It is assuming responsibility for personal health throughout the life cycle and fostering behaviors and practices that will enhance family health. Health maintenance and enhancement require diligence and continuous effort but it is an investment that produces many benefits.

Personal and family health involves learning to take care of one's physical self, including physical activity, weight management, personal health habits and hygiene. Personal health practices are not static; they involve changes and adaptation as one progresses through the human life cycle. Family interaction and health practices also influence individual health. Regardless of the family structure, students should understand health concerns and issues for all family members who may be at various stages of the human life cycle. As the student progresses through the life cycle, his/her health needs change, prompting the need for accurate information and responsible decision making.

The link between nutrition and health is well documented. The study of nutrition provides students with the knowledge and skills needed to make healthy food choices throughout their lives. It also provides students and their families with the opportunity to see the relationship between nutritional habits, health status, and maximum physical and academic achievement.

Personal and family health choices can be greatly influenced by advertising and the media. Therefore, consumer health skills are essential for analyzing the different fads and myths surrounding health issues and for avoiding fraudulent health information, products and services. Consumer health includes understanding how advertising can influence decisions regarding health products and services. Costs, benefits and claims of health information, products and services can be investigated to determine their validity, reliability and effectiveness. Knowing when to seek health care and knowing the impact technology has on overall health are important consumer issues to be addressed.

Maintaining and enhancing one's health also include learning life management skills which can help students lead healthy, productive lives. Personal goal setting, the process of decision making and refusal, assertive and conflict mediation are skills that can help them plan for their future, make reasoned and informed choices and deal with pressures, stress or controversy.

II. Health Maintenance and Enhancement

Although much of their environment and daily living activities are beyond their control, young children can choose many behaviors that contribute to good health. Focusing on what they can do will give students a sense of self-responsibility and capability for managing and enhancing their personal health. Dental and physical hygiene, exercise and rest are habits and behaviors that provide the foundation for life-long health practices. As students progress through rapid changes in physical, social and intellectual growth, they are given an awareness that all living things grow and change throughout the life cycle.

Food preferences and dietary practices are formed early; therefore, it is important to provide opportunities for students to investigate healthy eating patterns and learn how to select a variety of foods that promote health. Students at this age range need a basic understanding of nutrition, why food is important for growth, energy and meeting the body's daily needs.

Decisions regarding health maintenance and enhancement can be influenced by a variety of factors. An important concept for young students to recognize is that everyone is a consumer and there are advertising strategies used to influence the selection of products and services. Media, technology and other sources can either help or hinder individuals from practicing positive health habits.

A healthy lifestyle also depends on mental, social and emotional well-being. Life management skills introduced in age-appropriate ways can help students learn the processes for making good decisions and setting goals, plus skills to deal with anger, pressures and social conflicts.

A. Personal and Family Health

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 4, all students should know that	*By the end of grade 4, all students should be able to*	
1. Personal health is enhanced by behaviors that include care of skin, hair, teeth, gums, eyes, nose, ears and nails. (HP 2)	a. identify and discuss how personal behaviors can enhance the health of an individual and reduce the chances of disease, including adequate sleep, balanced nutrition, good posture, moderate exercise, appropriate clothing, hygiene and cleanliness in food handling (4.7)	• Plan and develop a health fair for peers and parents that includes demonstration stations on ways to maintain a healthy body, including personal cleanliness, fitness and care of the teeth. Determine the impact of the health messages by asking students to write, demonstrate or draw ways to maintain a "Healthy Me."
2. Regular physical activity, adequate sleep and balanced nutrition contribute to health maintenance and enhancement. (HP 2)	a. apply knowledge about physical activity and care of the body to daily personal health habits (1.10) b. using a variety of hands-on resources, literature and discussion, identify teeth and their functions in eating, speaking and appearance (1.4)	• Role-play correct handwashing using a human sink. (A square cardboard box and rope hangs around the students' neck, the extended hands become the faucets, the nose is the soap dispenser and the chin and neck hold the paper towels.) After drying hands, use paper towels to turn off faucets to prevent touching the faucets with clean hands.

II. Health Maintenance and Enhancement

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
3. Preventive care enhances personal health and assists in early detection and treatment of health problems, e.g., regular health and dental check-ups, immunizations. (HP 3)	a. identify why preventive physical and dental exams are important for health maintenance (4.7)	• Create a visual reminder that illustrates an appropriate schedule for a personal health habit, e.g., brushing teeth, exercise, personal cleanliness. • Using a large toothbrush and model set of teeth, demonstrate correct brushing and flossing. Compare healthy set of teeth to Mr. Gross Mouth and list factors that can cause teeth and gum problems, e.g., poor brushing, chewing tobacco, sticky foods, soda. • Read literature about teeth , e.g., *Munchy Mark, My Dentist, Little Rabbit's Loose Tooth*, etc. and use tooth models to create a booklet describing why teeth are important and how to take care of them. • Practice flossing with a partner by using tempera paint on hands and yarn as floss. (Fingers become teeth and paint is plaque.)
4. All organisms grow and change throughout life. (HP 1)	a. identify and sequence the stages of the human life cycle, e.g., infant, toddler, preschool, school-age (1.6)	• Create a time line that depicts where they and other family members are in the life cycle, i.e., preschooler, school age or older adults. Enhance time line with special events from each person's life.

II. Health Maintenance and Enhancement

B. Nutrition Principles and Practices

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 4, all students should know that	*By the end of grade 4, all students should be able to*	
1. Basic principles of nutrition (food sources, the food pyramid and essential nutrients) are necessary for an understanding of how nutrition and health are interrelated. (HP 2)	a. identify, locate and select information about the sources and basic functions of the six essential nutrients (1.6) b. categorize foods into the appropriate group on the food pyramid based on primary nutrient content (1.10)	• Apply basic knowledge of nutrients and their sources to create school lunches for a week, using the food pyramid. • Using a shower curtain on which the food pyramid has been traced, attach pictures to the correct section. (Food can be attached to the shower curtain with Velcro. Pictures can be obtained from the Dairy Council, magazines, etc.) Plan a meal by pulling foods off the pyramid.
2. Balance, variety and moderation in the diet will enhance and promote health. (HP 2)	a. make informed decisions regarding food choices based on an understanding of balance, moderation and variety (4.7)	• Demonstrate why a variety of food is needed by the body by building a wall of the "Super 21" (number of servings needed daily for an elementary child). Use tissue boxes laminated with each food group to build a "brick wall" with spaces in between. Tally your daily servings, then remove from "wall" the food servings you missed. Wall will tumble if too many food servings were missed. Compare results of activity to your health and nutritional needs.
3. Food provides energy for the human body to work, grow and perform daily routines. (HP 1, 2)	a. describe the relationship between food intake and energy/activity levels (1.6)	
4. Food choices are influenced by availability, family preferences, and culture, e.g., nationality, religion, heritage. (HP 2)	a. describe the relationship of family preferences and culture to their food choices (1.7; 1.10)	• Invite a guest speaker to share or speak about foods from a different culture. Follow up with research and illustration on particular food customs.

C. Consumer Health

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 4, all students should know that	*By the end of grade 4, all students should be able to*	
1. The media can influence one's health habits and decisions, e.g., persuasive advertising techniques. (HP 6)	a. interpret how the media can influence a consumer's decisions regarding health practices and products (1.7)	- Interview students and adults regarding specific products and why these products have been selected, e.g., soda, cereal, juice, soap, toothpaste, chips, etc. Then graph and narrate results.
2. Reading labels can help consumers make decisions about product selections. (HP 2, 6)	a. interpret labels in order to make decisions about product selections (1.5; 4.1)	- After discussion and study of basic advertising techniques, create an advertisement for a health product, food or services that uses one or more advertising techniques.
3. Health literacy includes the ability to understand how communication techniques used through a variety of media can influence health decisions and practices. (HP 6)	a. use technological tools to exchange information and ideas (2.7)	- Plan an effective advertising campaign (e.g., visuals, video, brochure) to persuade students to follow safety rules, eat breakfast, participate in a physical activity, etc.

II. Health Maintenance and Enhancement

D. Life Management Skills

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 4, all students should know that 1. Basic life management includes skills in decision making, problem solving, goal setting, refusal and stress management. (HP 2) **(Note: See the Glossary for definition of above terms.)**	*By the end of grade 4, all students should be able to* a. develop and record short-term goals regarding personal health and/or fitness, e.g., brush teeth twice a day for the next 2 weeks, walk for 15 minutes three times a week after school, monitor progress and evaluate (4.5) b. identify personal stressors in daily living and appropriate strategies to cope or adapt (3.1) c. apply basic conflict resolution strategies to solve or prevent problems (3.2) d. demonstrate assertive/refusal skills and identify situations in which they should be used (1.10; 4.1)	• Sequence the steps in decision making and explain how the decision making model can be used for a variety of situations. • Through literature studies, e.g., *Monster Mama* (conflict resolution), *First Grade Jitters* (stress/coping), *Albert the Running Bear Gets the Jitters* (stress), *Don't Pop your Cork on Mondays* (stress), simulated situations and classroom discussions, select and apply appropriate life management skills to solve or prevent problems. • Record and monitor daily progress toward a personal health or fitness goal.

II. Health Maintenance and Enhancement

Middle school students are experiencing many developmental changes. They need opportunities to understand these changes and to assume responsibility for personal care, self-grooming and for making reasoned and informed decisions regarding health habits and behaviors. Content should focus on adolescent health concerns and strategies to effectively manage them. Adolescents are more interested and aware of the influence heredity and environment have on their development. As they begin to understand factors that affect their health or that of family members, they can be taught ways to manage health concerns or to enhance their own wellness. They should be encouraged to be physically active for health reasons as well as for pleasure and enjoyment.

Adolescents have greater opportunities to select and prepare food but often choose foods high in fat, sodium and calories. Adolescents need to understand the interrelationships among total calories, food sources, energy expenditures and body composition, especially at a time when their bodies are changing rapidly. The selection of a variety of nutritious foods can influence their growth, development, health and ultimately the quality of life. The functions of nutrients as well as their sources and daily requirements are important concepts to be addressed. The effects food choices have on body composition and health should be studied as well as the dangers of eating disorders. Adolescents can examine how their food choices are influenced by family, emotions, peers and the media. During adolescence, health decisions are easily swayed by peers and the media. Students should investigate how advertising, fads and quackery affect their health choices and practices and should develop criteria for the selection or rejection of health information, products and services.

Positive peer relationships are very important during this grade span. Students should learn that although preadolescence and adolescence are frequently periods of emotional turmoil, various coping strategies can be used to deal with concerns or issues during this time. At this age it is appropriate to introduce the causes and effects of stress on one's health. Stress management techniques, realistic goal setting and coping skills should be taught. Adolescents need opportunities to practice conflict mediation, decision making and refusal/assertive skills.

A. Personal and Family Health

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 8, all students should know that	*By the end of grade 8, all students should be able to*	
1. There are seven behaviors that if performed regularly can contribute to a healthy lifestyle. They include eating breakfast every day, refraining from smoking, sleeping six to eight hours each night, maintaining normal weight, exercising regularly, avoiding food between meals, and refraining from drinking alcoholic beverages. (HP 2, 5)	a. analyze the relationship between behaviors and health (1.7) b. assess personal health needs during adolescence and apply strategies to address those needs or problems (3.2; 3.3)	• Plan and produce a news documentary entitled "Lifestyles of the Healthy and Infamous" regarding behaviors that contribute to a healthy life, e.g., diet, recreation, exercise. • Create a visual display of the potential fitness benefits of a variety of lifetime physical activities.

II. Health Maintenance and Enhancement

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
2. Rapid changes in physical, social, emotional and intellectual growth contribute to adolescent health concerns. Understanding and learning ways to manage these changes can ease the transition into adulthood. (HP 1, 2)	a. identify factors that can affect growth and development, differentiating between those they can or cannot changes, e.g., heredity, family, environment, physical activity, hormones and disease; examine ways to enhance or adapt the identified factors (4.7)	• Through research and study, develop a personal wellness plan that includes components of weight management, exercise, nutrition and rest. • Use a Teen Health Survey to assess current and future health status. Based on findings, recommend ways to enhance health and fitness.
3. Human growth and development is influenced by heredity, family and environment. (HP 1)	a. identify ways in which one can alter, enhance or adapt to influences on growth and development (4.7)	• Develop an adolescent health survival magazine including information regarding growth and development issues, peer pressure, etc.

II. Health Maintenance and Enhancement

B. Nutrition Principles and Practices

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 8, all students should know that	*By the end of grade 8, all students should be able to*	
1. Fats provide the body with a stored form of energy, warmth and insulation for body organs. Carbohydrates provide the body with an immediate source of energy. Protein helps the body grow, makes muscles strong and repairs body tissues. Vitamins and minerals help to release energy and help the body perform many functions including fighting infections, making strong bones and teeth, etc. (HP 2, 3)	a. conduct laboratory inquiries to determine the presence of fat, protein, starches and sugar in food samples (1.2; 1.4) b. identify food sources that supply each of the essential nutrients (1.10)	- Place in rank order food and food products that are most to least nutritious, e.g., fruit, popcorn, potato chips. - Use starch iodine, Testape, paper bags, timer and a variety of foods to test for the presence of starch, sugar and fats. Predict, observe, record and summarize data, then draw conclusions regarding nutrient sources.
2. Nutrients are used by the body for energy, growth, repair, and cellular needs. (HP 1, 2)	a. apply nutrition knowledge to compare the nutrient contribution of a food to its energy contribution (1.7) b. describe the contribution specific nutrients make toward growth, repair and cellular needs of the body (1.16)	- Plan a party for teenagers that meets their growth and energy needs as well as food preferences. - Produce a snack and simple meal considering adolescent nutritional needs and likes. Evaluate nutrient content based on the food pyramid and recommend nutritional needs for the rest of the day to meet the dietary requirements.
3. The food pyramid is a graphic representation of daily nutrient needs and the food groupings that can provide them. (HP 2)	a. organize foods into groups with similar nutrient composition. (1.5)	- Using the food guide pyramid, plan a grocery list for five sack lunches that reflect correct serving sizes from the different groupings.

II. Health Maintenance and Enhancement

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
4. Nutrient needs change as they grow. (HP 2)	a. select appropriate foods based on energy needs, food preferences, and nutrient requirements as represented on the food pyramid (4.7)	• From student-generated menus, select meals that reflect nutrient variety, and balance and then determine the appropriate serving size.
5. Balance, moderation and variety are important concepts to be considered when making food choices. (HP 2)	a. make informed decisions regarding food choices based on an understanding of balance, moderation and variety (4.1)	• Brainstorm and discuss factors that influence food choices, e.g., family, personal food preferences, media, culture and geography.
6. Food choices are influenced by their culture, family, emotions and by peers and the media. (HP 2)	a. evaluate factors which influence food choices and their impact on nutrition and health (4.7)	• Working in teams, debate the relationship of food choices and the media to appearance and body image.
7. Food choices and concerns regarding body image affect body composition and optimal health. (HP 2)	a. identify problems that can occur with body image during adolescence and formulate appropriate strategies to address this concern (3.1; 3.2)	• Design a label for an imaginary food product and list ingredients as required by law–calories, grams of fat, etc.
8. Food labels can be analyzed to determine calories and nutrients in a product plus serving size, types of ingredients and nutritional value. (HP 2, 6)	a. analyze food labeling information to determine calories, nutrients and serving size in a product (1.2)	

II. Health Maintenance and Enhancement

C. Consumer Health

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 8, all students should know that	*By the end of grade 8, all students should be able to*	
1. Consumers have the following rights to protect themselves from false health claims: * right to safety, * right to be informed, * right to be heard, * right to have problems corrected, and * right to consumer education. (HP 6)	a. identify agencies that provide consumer protection service (1.9) b. analyze consumer health issues and products to make wise decisions (1.10; 4.1)	• Create Public Sercice Announcements regarding the rights of a consumer and the government agencies and private organizations that help to protect those rights. • Use technology to obtain current consumer health information and develop a brochure regarding their findings. Or given a situation of consumer fraud or quackery, use studied information to write a consumer complaint letter to the company.
2. Consumer issues including fads, quackery and advertising can influence health behaviors and practices. (HP 6)	a. develop strategies to solve consumer health problems (3.2; 3.3)	• Critique advertising techniques and analyze their influence on consumer decisions regarding health-related purchases.
3. Advertising techniques influence consumer decisions. (HP 6)	a. use critical-thinking skills to analyze marketing and advertising techniques (4.4)	• Create an original health product to address a particular health problem, then design a marketing campaign to communicate the functional uses and cost benefits of the product, considering the targeted audience.

II. Health Maintenance and Enhancement

D. Life Management Skills

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 8, all students should know that	*By the end of grade 8, all students should be able to*	
1. Life management skills such as stress management, goal setting, decision making, assertive behavior, resisting peer pressure, and conflict resolution can be applied to personal situations that adolescents encounter. (HP 2, 5)	a. apply the decision-making process to adolescent health issues (4.1) b. evaluate the process used in solving problems and verify whether the solution addresses the problem to which it was applied (3.4; 3.7) c. distinguish between problems that can be solved independently and those that need the help of a peer, adult or professional (3.1) d. apply peer pressure reversal techniques to reduce or resist negative peer pressure and aggressive behavior (3.2; 3.3) e. apply stress management skills to reduce stress-related problems. (3.2, 3.3) f. recognize conflict situations and apply conflict resolution/mediation strategies. (3.2, 3.3)	• Role-play a scenario where frustration, anger, disappointment or grief was experienced. Identify ways the situation could have been avoided or handled differently, then discuss ways to relieve the stress of the negative feelings. • Create a skit, rap, cartoon or song that utilizes refusal skill techniques to respond to negative peer pressure. • Establish short- and long-term goals for a specific health issue and develop criteria for monitoring, e.g., improve muscular strength through fitness program, improve diet intake based on food pyramid guidelines. • Practice solving different types of conflicts using effective communication and conflict mediation, e.g., parent/child, teacher/students, consumer/salesperson.
2. Health-related career opportunities exist in areas of education, primary prevention and tertiary care e.g., medical engineer, exercise physiologist, sports therapist, nurse, physician, dietitian. (HP 6)	a. explore career opportunities in the health-related profession and how these roles meet the needs of the health consumer (4.8)	• Identify and discuss job responsibilities in health-related careers. • Job shadow a health-related professional for 1 day.

II. Health Maintenance and Enhancement

Good health practices including an active lifestyle, self-assessment and self-care are important concepts to reinforce. As young adults continue to change through the human life cycle, they need to be cognizant that individuals in every stage of the cycle have unique needs, concerns and challenges. As students begin to contemplate their futures, the issues of relationships and sexuality become a concern. The importance of mature relationships, commitment and preparation for parenting become more relevant. Other than the first year of life, adolescence is the period of fastest growth. Adolescence is a time when one's lifestyle can be active, busy and stressful.

Good nutrition is important both to growth and to meet the energy needs for an active life. The ability to analyze nutritional information in diets, on food labels and in recipes will help students make sound nutritional choices and reject deceptive nutritional claims. Understanding the relationship between diet and exercise, nutrition and disease prevention can assist students in making good health decisions both now and throughout the life cycle.

Because students at this level are making many consumer decisions, they need opportunities to analyze health services, products and information, including costs and benefits as well as the influence of medical research and technology on consumer decisions.

Life management skills should address the changes experienced in a young adult's hectic life. Goal setting and decision making are important skills that will help students prepare for the challenges of adulthood. Students should be encouraged to develop effective coping strategies including discussing problems, examining the situation leading to a problem and seeking appropriate assistance. Life management skills such as goal setting, decision making, stress reduction and refusal techniques should continue to be practiced.

A. Personal and Family Health

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 12, all students should know that	*By the end of grade 12, all students should be able to*	
1. Different forms of exercise and physical activity provide health or skill-related benefits. (HP 4)	a. assess exercise programs and activities to determine if they meet the criteria for health-or skill-related fitness (1.2)	• Plan and implement a fitness program including personal assessment, goals, cost, benefits and types of exercise, warm-ups, aerobic period and cool-down and evaluation of success. Incorporate fitness principles including frequency, intensity, time, overload and progression.
2. Health-related fitness components include body composition, muscular strength and endurance, flexibility and cardiovascular fitness. (HP 4)	a. design strategies for improving and monitoring health-related fitness (4.5)	• Design a brochure for health club members outlining recommended exercises that incorporate physiological concepts necessary for safe workouts.
3. Skill-related fitness components include power, speed, reaction time, balance, coordination and agility. (HP 4)	a. analyze factors, e.g., time, cost, accessibility, related to regular participation in physical activity (1.10; 4.7)	• Assess personal fitness using scales of performance, weight/height ratios, etc., and establish goals and a plan to implement a program that incorporates health-related fitness.

II. Health Maintenance and Enhancement

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
4. Regular exercise has both physiological and psychological benefits. (HP 4)	a. make reasoned and informed decisions regarding a personal fitness program (4.1)	• Invite a physician, nurse or exercise physiologist to discuss benefits versus costs of being active.
5. Relationships contribute to social, physical, emotional and intellectual health. (HP 2)	a. evaluate the factors that influence relationships and the impact that relationships have on self and others, e.g., friendships, dating, marriage (1.6) b. develop and discuss a list of characteristics that help to develop and foster positive long-term relationships (1.1)	• Brainstorm and discuss factors that are important in relationships, e.g., appearance, money, religion, sense of humor. Prioritize and compare traits most desired for a date and for a spouse. Analyze why priorities may be different and how they may change as one matures.
6. Individuals grow, change and adapt throughout the human life cycle. (HP 1, 2)	a. develop strategies to deal with health-related issues common to each stage of the human life cycle (3.5)	• Independently or in groups, research different stages of the human life cycle, including pregnancy, infant, child, adolescent, young adult, adult, middle age and elderly. Include needs and health-related issues for each stage and strategies to address them.
7. Teen parenting and pregnancy should be examined from the personal, family and societal perspectives. (HP 5)	a. analyze issues of teen pregnancy considering the physical, social and economic effect upon the adolescent and the family (3.1; 4.3) b. investigate and analyze the health risk to mother and baby of teenage pregnancy (3.2)	• Conduct a panel discussion with older parents, teen parents, social service organizations, pediatrician to examine the impact of teen pregnancy. Follow up with each student examining the effect a pregnancy would have on personal goals and family dynamics including an assessment of his/her own readiness for parenting in terms of time, cost, emotional maturity, educational plans, etc.
8. Many factors must be considered in family planning, e.g., physical and emotional maturity, religious and cultural beliefs, risks and benefits of conception control. (HP 1, 5)	a. evaluate how behaviors and prenatal care influence the health of the mother and the baby (1.6; 3.8; 4.7) b. evaluate information about methods of contraception including abstinence (1.6)	• Invite guest speakers from March of Dimes, local health department, pediatrician, etc. to discuss the impact of behaviors on mother and baby. • Write a persuasive speech on why abstinence is the most effective choice of conception control for teenagers. Include a composition of other methods.

II. Health Maintenance and Enhancement

B. Nutrition Principles and Practices

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 12, all students should know that	*By the end of grade 12, all students should be able to*	
1. Food can be analyzed to determine its nutritional content. (HP 2)	a. use a variety of resources and technology to calculate and analyze the nutritional content of foods (3.1, 3.7)	• Calculate the caloric and nutritional value of snacks, convenience and fast foods; interpret data and make recommendations for improvement.
2. Key nutrients perform specific functions and influence body compositions. (HP 2)	a. use technological tools and other resources to locate, select and organize information regarding the influence of nutrients on the body systems and body composition (1.4)	• Students create a demonstration to teach others about the function and importance of their assigned nutrient, e.g., bags of flour to represent changing calcium needs, measuring amounts of fat in different foods. Use Popsicle sticks measured off in tenths to show percentage of fat in different.
3. A well-balanced diet that is low in fat, high in fiber, vitamins and minerals can reduce the risk of certain diseases. (HP 2, 3)	a. explain the relationship between nutrients and disease prevention (2.2; 2.4)	• Use guest speakers, computer resources, professional journals to prepare presentations on the relationship between diet and diseases or disorders, e.g., obesity and eating disorders, high-fat diet and colon cancer, anorexia and body image.
4. Factors that influence a safe food supply include regulatory agencies, food handling and production, food storage, techniques, pesticides, additives, etc. (HP 2)	a. investigate and explain the factors that influence a safe food supply (1.10)	• Divide into cooperative groups to research and report on food safety factors, e.g., government regulations, agencies, food handling, food-borne illnesses.
5. There is a direct relationship between diet and exercise. A nutritional diet enhances fitness capability. To lose weight an individual needs to eat less and exercise more. (HP 2)	a. plan a diet and fitness program based on the relationship between food intake and exercise in weight management and activity (4.5)	• Critique diet plans and exercise programs to see if they meet the criteria for safe and effective weight management and physical performance.

II. Health Maintenance and Enhancement

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
6. Nutrient needs change throughout the life cycle. (HP 2)	a. assess how nutritional needs change throughout the life cycle (1.6)	• Compare and contrast the nutrient needs for individuals at different stages of the life cycle, e.g., toddler, young adult.
7. Dietary choices can be influenced by their culture, lifestyle, media and advertising. (HP 2, 6)	a. analyze the factors that influence dietary choices including life style, ethnicity, family, media and advertising (4.7)	• Survey a random sampling of high school students to determine their 3-day food intake. Analyze food intake to determine if the number of servings per food group was met, what nutrients were lacking or in excess and through interviews determine what influenced dietary choices. Report findings in school newsletter and make realistic recommendations to address areas of concern.
8. Food labels can be analyzed to determine the nutrient quality of the food and to make wise food choices. (HP 2, 6)	a. analyze food labels to interpret the nutrient information (1.2)	• For homework assign student to analyze label information from a variety of food products to interpret percent of fat, types of additives, percent of daily value. Based on findings, select most nutritious product from each food pyramid category.

II. Health Maintenance and Enhancement

C. Consumer Health

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 12, all students should know that	*By the end of grade 12, all students should be able to*	
1. An informed consumer knows how to analyze health information, services and products to remain current with technological advances that could affect consumer decisions. (HP 6)	a. make informed health decisions by analyzing health information from a variety of resources (1.3; 4.1) b. evaluate the reliability of health services, products and information (1.6)	• Evaluate health-care issues including services, insurance, care plans to determine options available for consumers and criteria to be addressed in selection (e.g. What should a consumer look for to get a reputable mammogram?). Given typical health-care problems, develop questions to ask a physician to make informed and responsible health decisions. • Write a letter to a company describing a health-related consumer problem and outline expectations for resolving the consumer difficulty.
2. The media can influence a consumer's perception of body image and can affect health decisions. (HP 6)	a. evaluate the idealized body image and elite performance levels portrayed by the media and determine the influence on a young adult's self concept, goal setting and health decisions (1.6; 4.7)	• Present an informational forum by having students assume roles of consumer protection agencies. Other students then have an opportunity to ask questions regarding consumer rights, etc. • Develop "quack buster" teams to evaluate fitness and health-related products to determine credibility and effectiveness (e.g., spot reducing, gut busters, cellulite dissolvers) Support or reject, based on student lab inquiries and research, that the product represents a potential type of quackery.
3. Some advertising is designed to appeal to the emotions of consumers and may contribute to unhealthy behaviors. (HP 6)	a. analyze health claims made by the media to determine their impact on personal and family health (1.1)	• Using knowledge learned about the validity and credibility of fad diets, create an "Eat up the Facts About Diets" brochure or bulletin board display that dispels diet myths. • Create a display or video promoting a health related issue for use with younger audiences.

II. Health Maintenance and Enhancement

D. Life Management Skills

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 12, all students should know that	*By the end of grade 12, all students should be able to*	
1. Life management skills can help young adults in planning for their future and addressing personal and social concerns that are part of daily living such as learning to manage time and stress, deal with conflicts, work collaboratively, make reasoned and informed decisions and set goals. (HP 2)	a. identify common stressors and develop strategies to address the stressor; then evaluate the extent to which the strategy was effective (3.1; 3.2; 3.7) b. identify and apply practices that preserve and enhance the safety and health of others (4.7)	• Select and implement a stress management technique, e.g., playing piano, exercise, organizational skills; monitor progress and report as needed. • Identify situations that are anger inducing and discuss one's physical and emotional responses to anger. Given a potential anger-inducing scenario, describe nonviolent ways to deescalate or resolve the conflict.
2. Opportunities to explore health/fitness careers can help students determine interests, opportunity and academic preparation necessary for these careers. (HP 6)	a. explore, prepare and seek educational and job opportunities (4.8)	• Shadow a professional, investigate career requirements, apply the decision-making process to plan for goal attainment.

III. RISK ASSESSMENT AND REDUCTION

- A. Disease Prevention and Control
- B. Injury Prevention and Safety
- C. Tobacco, Alcohol and Other Drugs (TAOD)
- D. Environmental Health

K-12 Content Overview

In order to lead healthy, active lives, individuals need to know how to assess and reduce their risks and to assume responsibility for their health and safety. Beyond accumulating facts and information, students need to use problem-solving and decision-making skills that will help them assess their own risks and to respond in health-enhancing ways when confronted with challenges to their health and safety. Therefore, the curriculum should provide students with opportunities to study accurate information about health threats and to explore risk reduction strategies in the areas of disease prevention and control, injury prevention and safety, tobacco, alcohol and other drug use (TAOD) and environmental health hazards.

In order to assess their health hazards and to practice risk reduction , students need an understanding of personal, social and environmental risks that reduce the ability to lead healthy, productive lives. Threats to health include uncontrollable risk factors such as heredity, age, race and gender. Risks that are a result of lifestyle decisions include smoking, lack of regular exercise, substance abuse, high fat, low fiber diets, etc.

Social risks include situations that promote conflicts and violence or safety issues involving strangers and potential danger.

One's immediate and global environment also can pose risks to present or long-term health. Individuals need an understanding of potential environmental health hazards so they can take an active role in environmental health protection both for themselves and for future generations.

III. Risk Assessment and Reduction

The curriculum should emphasize how behaviors can help prevent disease or reduce its influence. Students should be able to differentiate between communicable and non-communicable diseases. They should explore the causes of communicable diseases and their methods of transmissions. They should begin to understand that the risk of developing chronic diseases is influenced not only by their behavior but also by environmental conditions and genetic predisposition. Students should also explore how their behavior can help them recover from disease.

Students should recognize the potential for danger in everyday situations and behave in ways that help protect their own safety and well-being. They should be able to describe the characteristics of a safe environment.

To reduce the risk of tobacco, alcohol and other drug use (TAOD) , students should learn about the negative impact chemical substances have on health. They should be able to differentiate between helpful and potentially harmful substances and identify ways to seek assistance when confronted with situations involving TAOD. The reason for taking medicines properly and only under the supervision of responsible adults should be emphasized.

Students should learn about health hazards resulting from the environment including an introduction to the main causes, i.e., air, water, excessive noise, and exposure to sun. They should begin to examine community agencies, laws and regulations designed to promote community and environmental health, e.g., city water testing, animal control.

Experiences within the school setting should provide opportunities to assess their risk factors and learn successful risk reduction strategies.

A. Disease Prevention and Control

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 4, all students should know that	*By the end of grade 4, all students should be able to*	
1. Diseases can be categorized as communicable (transmitted to humans through some vehicle, e.g., person, air, water, insect) or non-communicable (not passed from person to person, e.g. cancer, heart disease). (HP 3)	a. organize information about basic diseases into communicable and non-communicable and describe the difference between the two (1.5) b. identify and describe basic causes, symptoms, treatments and management of common communicable diseases and health problems (1.5; 1.10; 4.7)	• Develop a classroom booklet of illustrations regarding communicable and non-communicable diseases. Flip the book one way and read each student's thoughts, poems, or illustrations aboutt communicable diseases. Flip the book the other way to read about non-communicable diseasess. • Read primary trade books about disease, e.g. *Mean Nasty Invisible Germs, Germs Make Me Sick.* Then create an illustration that helps to summarize main points.

III. Risk Assessment and Reduction

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
2. The body has ways to defend its self against disease. (HP 1)	a. identify the body's basic lines of defense, including skin, hairs in nasal passage, bronchi, stomach acid and white blood cells. (1.5)	• Plan, design and develop a role-play simulation regarding disease transmission and the body's basic lines of defense, e.g., one student is a cold virus, others play roles of skin, mucuous, white blood cells.
3. There are certain conditions and behaviors that enhance both the growth and spread of germs.	a. draw conclusions about factors necessary for germs to grow (1.2)	• Conduct a laboratory inquiry by determining the effect of light, warmth, and moisture on the growth of mold on bread. Use one piece of bread as the control. Make inferences about the variable and conditions necessary for germ growth. • Demonstrate disease transmission by using a water bottle to simulate a sneeze. Show how a tissue decreases the mist from spreading. Create illustrations using the hands on tissue over face.
4. There are health behaviors and practices that can speed recovery, reduce diseases and prevent illness. Behaviors include good handwashing, covering mouth when sneezing, adequate rest, drinking plenty of fluids during illness, keeping immunizations up-to-date. (HP 2, 3)	a. identify and apply practices that reduce their risk of communicable diseases and speed recovery from illness. (3.1;3.2;4.7)	• Designate a classroom detective to observe practices that reduce disease transmission, e.g., covering mouth when coughing, handwashing before eating, keeping objects out of mouth. Summarize data and make class awards based on findings.
5. Early intervention and health practices can help to manage ,reduce their risk or preveent non-communicable diseases.	a. determine cause and effect relationship between health behaviors and diseases on illness. (1.6)	• Design a Disease Flip Card Game to show cause and effect relationships, e.g., smoking and lung cancer, lack of exercise and heart disease, sun exposure and skin cancer. Summarize how early intervention and health behaviors can lead to successful management of chronic diseases such as asthma, arthritis, cancer.

B. Injury Prevention and Control

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 4, all students should know that	*By the end of grade 4, all students should be able to*	• Develop a safety checklist that includes strategies to prevent injuries at home, school or in the community. Use the checklist to make informed and responsible decisions regarding the improvement of safety conditions in students' surroundings. • Given a scenario or illustration, select and apply appropriate safe living strategies to prevent potential emergency problems (e.g., water, electrical, fire, stranger and weather-related emergencies). • Create "Risky Business" posters for use in school hallways that describe human actions and are risky or harmful to self and others. • Conduct egg drop experiment to reinforce the importance of wearing helmets. Invite police officers or safety patrol member to discuss and demonstrate bike hand signals and safety guidelines. • Compile a list of childhood injuries you had or have knowledge of, then determine the causes of injuries and determine if a cause and effect relationship exists between risky behaviors and incidence of injuries. • Assess whether a situation is threatening and role-play appropriate procedures for getting assistance including the information necessary to make a 911 call, e.g., who, what, when, where. • Survey the number of students who wear bicycle helmets. Interpret reasons given why helmets are not being worn and create responses, both oral and illustrative, that communicate the importance of safety.
1. There are observable conditions in a safe home, school or neighborhood environment. (HP 5)	a. identify actions that are risky or harmful because of their effect upon self and others (4.3; 4.7)	
2. There are ways to assess their environment and to recognize the potential for danger in everyday situations, e.g., not wearing a seat belt, too many plugs in one outlet, telling a caller that parents are not home. (HP 5)	a. identify potential risks in daily living and apply basic health and safety measures (4.7)	
3. Basic first-aid procedures and decision making skills can help to protect their safety and well-being, e.g., never taking another individual's medicine, running cool water over a first-degree burn. (HP 2, 7)	a. demonstrate basic first-aid procedures for handling childhood injuries, e.g., cuts, scrapes, first-degree burns (1.10)	
4. Individuals can reach emergency assistance by knowing the appropriate number to call (911 in most areas) and including pertinent information (who, what, where, how many, ask for assistance and hang up last). (HP 7)	a. select and apply first-aid procedures to solve problems related to simple injuries, choking and weather emergencies, e.g., where to go in a storm; verify whether a first aid solution addresses the problem to which it was applied (3.1; 3.2; 3.7) b. recognize problems in daily living situations that may require emergency assistance and select appropriate resources, including 911 call to solve the problem (3.2; 3.7)	

III. Risk Assessment and Reduction

C. Tobacco, Alcohol and Other Drugs (TAOD)

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 4, all students should know that	*By the end of grade 4, all students should be able to*	
1. There are safe and unsafe substances that can be placed in the mouth. (HP 5)	a. identify substances that are safe and unsafe to be taken orally (1.10; 4.7)	• After categorizing substances that are safe and those that are unsafe, use a smiley face or a Mr. Yuk picture to appropriately identify the substances.
2. Medicines are used to treat an illness or to prevent health problems. Medicines should be taken under the supervision of an adult according to recommended guidelines. (HP 5)	a. identify the purpose of medicines and how they can be used safely. (1.10; 4.7)	• Draw pictures of a reason for using medicines and correct and safe usage of medicines, given by an adult, given correct dosage at the correct time, etc.
3. Tobacco, alcohol and other drugs (TAOD) can have dangerous effects on the body. (HP 5)	a. describe how TAOD can affect body systems. (2.1, 2.4, 3.5, 4.1)	• With classmates, select different body systems to role-play cause and effect relationships, e.g., lungs describe the effects of smoking on them, brain and liver-alcohol effects.
4. Tobacco contains nicotine which is an addictive drug. Smoking can affect not only the smoker but others exposed to second-hand smoke. (HP 5)	a. describe the effects of smoking including second-hand smoke. (2.1, 2.4, 3.5, 4.1)	• Design a smoking machine using a 2-liter bottle, cotton balls and squeeze bottle to conduct an experiment on the effects of smoking. From the results, summarize if tobacco companies are protecting smokers through the use of filters. • Read the book *Cigarette, Cigarette,* then develop warning labels based on an understanding of the effects of smoking. • Calculate the money an individual could save in year if he/she quit smoking after being a pack-a-day smoker.

III. Risk Assessment and Reduction

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
5. Many factors e.g., media, peers, self-concepts, etc. influence decisions to use or abuse substances. (HP 5, 6) NOTE: TAOD prevention involves more than the study of drugs and their effects on the body. Factors such as positive self-concept, family support, peer relationships, learning how to make good decisions, etc., are all important in drug prevention. These concepts are included in Social Systems and in Life Management Skills in this framework.	a. evaluate how the media and other factors may influence one's perspective. (1.7) b. describe how healthy relationships with friends and families and a positive self-concept can affect an individual's ability to resist tobacco, alcohol and other drug use (2.1)	• Gather tobacco and alcohol information from advertisements, commercials and movies to determine what type of message is being portrayed, Reverse the message to include the real effects of tobacco, alcohol and other drug use. • Write an essay or draw an illustration explaining why TAOD is "not for me."

D. Environmental Health

By the end of grade 4, all students should know that	*By the end of grade 4, all students should be able to*	
1. Air, land and water pollution plus exposure to sun and loud noises can affect their health. (SC 4)	a. identify actual or potential risk factors within the home, school and community environment that can affect one's health; then establish goals and a plan to reduce personal risks, e.g. wearing sunscreen, keeping food refrigerated, having parent change furnace filter (3.1; 4.5)	• Observe for one week the school playground, home environment or route to school for potential environmental health concerns. Brainstorm solutions or recommendations to solve the problem.
2. There are laws, regulations and community agencies that are designed to promote and protect community and environmental health. (SC 8)		• Based on studies from environmental groups, e.g. Department of Health, Department of Sanitation, determine services available for the community, e.g. water testing for public consumption and public swimming, flu vaccines.
3. Individual actions can do much to help preserve the environment and promote environmental health. (SC 4)	a. examine a common environmental problem, then discuss the effort made by individual agencies or the government to reduce or to prevent the problem (3.1; 3.7)	• Create a landfill, using an old aquarium, to observe whether classroom trash decomposes. • Read *Just a Dream*, then have a recycle relay race to categorize products that can be recycled or disposed of.

III. Risk Assessment and Reduction

Because students at this grade span are becoming more independent and are more prone to risk-taking behaviors, they need to know that most potentially dangerous situations can be avoided or handled through proper assessment and risk reduction practices. Students at this level should be given opportunities to analyze their own and others' behaviors and to formulate strategies for dealing with the health and safety situations they might confront.

Students at this level should be encouraged to take responsibility for the treatment and prevention of diseases. In order to do this, they need to learn the symptoms of common diseases among youth and the importance of early diagnosis and treatment, including self-treatment and management. In addition, they should learn when to seek qualified medical help. The curriculum should focus on the importance of following prescribed health-care procedures and cooperating with parents and health-care providers to facilitate recovery.

Students should learn about and demonstrate their understanding of safety guidelines and equipment (e.g., helmets, seat belts, knee pads) and of emergency procedures (i.e., basic first aid) including the Heimlich Maneuver.

The use of tobacco, alcohol and other drugs (TAOD) frequently plays a role in the dangerous behaviors of adolescents and adults. Students should understand the effects of using these substances on the individual, on families, communities and society. The curriculum also should include guidelines for the use of over-the-counter and prescription drugs. Because middle school students may have an increased sensitivity to peer influences and pressures, they need opportunities to identify and enhance behaviors that will help prepare them for the situations they might encounter..

Students need to know that a number of health conditions are either caused or exacerbated by environmental factors, e.g., asthma and other lung ailments due to air pollutants; skin cancer from unprotected exposure to the sun; intestinal disorders from polluted water; and allergens from pollens, dust, or animal dander. Additionally, environmental teratogens, both naturally occurring and synthetic, can cause birth defects and developmental disabilities.

A. Disease Prevention and Control

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 8, all students should know that	*By the end of grade 8, all students should be able to*	
1. Communicable diseases are caused by pathogens including bacteria, virus, fungi and parasites. Communicable diseases include colds, influenza, strep throat, HIV/AIDS, athlete's foot, ring worm, etc. (HP 3)	a. use a variety of resources to compile information regarding the cause, transmission, treatment and prevention of communicable diseases, e.g., HIV/AIDS, mononucleosis, etc. (1.4; 1.8)	• Create a communicable disease story that includes negative health behaviors, symptoms, and transmission of the disease. Prepare and present oral reports to the class, identifying how health behaviors in the story contributed to disease development. Based on an understanding of communicable diseases, make treatment and prevention recommendations. • Survey class regarding the incidence of common communicable diseases. Use the information for discussion and comparison of causes, symptoms and treatment. Summarize commonalities and evaluate if patterns exist.
2. Communicable diseases are transmitted through direct and indirect contact, water, air, vector or animal. (HP 3)	a develop questions and ideas to determine optimal conditions for growth of organisms (1.1)	• Conduct an experiment using petri dishes for growth of organisms. Plan variables and control, then observe and summarize results.

III. Risk Assessment and Reduction

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
3. The body has several lines of defenses against communicable diseases. How the body defends itself is evident through the stages of disease progression. (HP 3)	a. outline the body's lines of defenses and the stages of disease progression including incubation, acute, recovery and relapse (1.8)	• Given information on several communicable diseases, sequence the stages of disease progression. Select one disease and designate roles to discuss the jobs of the body's defense team, e.g., skin, tears, etc.
4. Non-communicable diseases are caused by heredity, lifestyle factors, autoimmune system problems and unknown reasons. Non-communicable diseases include heart disease, cancer, leukemia, arthritis, hyper-tension, multiple sclerosis, etc. (HP 1, 3)	a. locate, select and organize information about non-communicable diseases, focusing on adolescence, e.g., diabetes, asthma, joint disease, cancer, mental disorder (1.4) b. differentiate between communicable and non-communicable diseases, their causative factors, symptoms, treatment and potential prevention measures (1.6)	• Prepare reports on genetic disorders such as cystic fibrosis, hemophilia, sickle cell anemia, and Tay -Sachs disease, then evaluate if there is any known cause, e.g., ethnicity, age of parents, for the disorders.
5. Non-communicable diseases can impact on adolescents' physical, social, emotional growth, necessitating adaptation, understanding and management of the problem. (HP 1, 3)	a. access non-communicable diseases prevalent in adolescents, e.g., asthma, diabetes, then analyze the impact they could have on adolescent physical, social and emotional development (1.7; 3.1; 3.8)	• Using "Grab a Disease Bags," apply knowledge learned about disease (causative factors) body's responses (treatment and management) to study a non-communicable disease occurring in adolescence. Analyze how one's life would be different with the disease and what modifications would be needed in daily living. Develop a Teen Health Magazine for school including reports for others to read.
6. Learning the symptoms and causes of adolescent health problems can facilitate early diagnosis and treatment including self-care and management. (HP 1, 3)	a. recognize adolescent health concerns and select appropriate strategies to solve or prevent problems, e.g. anorexia, bulimia, acne, scoliosis (3.1; 3.2; 3.3)	• Assess and evaluate personal eating habits and their relationship to health risk reduction (e.g., low-fat diet reduces risk of heart disease and colon cancer). Establish nutrition goals and a plan of action to improve food selections.

III. Risk Assessment and Reduction

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
7. Health behaviors practiced during adolescence can reduce the risk of disease formation or transmission. (HP 3, 5)	a. identify health behaviors and prctices that can reduce disease risks, considering their short and long term effects on human health, e.g., stress management, exercise, low fat diet, avioding congested malls during flu outbreaks (1.6; 3.1; 4.7)	• Develop a Risky Business Health Page for school or computer "Home Page' describing behaviors that can reduce risk of communicable and non-communicable disease. • Use multimedia to create and implement an advertising campaign showing healthy behaviors that can help to prevent heart disease, cancer and stroke.
8. Public health agencies and government health departments help to reduce, control, monitor or prevent disease through research, education and enforcement of laws. (HP 3)	a. analyze how the Department of Health, the Centers for Disease Control and other public health agencies affect individuals and communities in disease reduction, control, or prevention, e.g., food inspection, safe storage and handling, flu vaccines, education, no smoking ordinances (1.9)	• Brainstorm a list of the causes, modes of transmission, treatment and prevention of common childhood diseases. Role-play a Center for Disease Control panel to discuss findings. Include the role of public health agencies.

III. Risk Assessment and Reduction

B. Injury Prevention and Safety

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 8, all students should know that	*By the end of grade 8, all students should be able to*	
1. There are ways to assess potential unsafe situations in their physical and social environment. (HP 5)	a. assess home and school environment for potenial unsafe situations and recommend corrective action (3.1; 4.5; 4.7) b. recognize problems in daily living that may contribute to self destructive behaviors and apply strategies to reduce the risks of harm to self and others (3.2; 3.6)	• Brainstorm a list of potential social problems, e.g., boyfriend/girlfriend disagreements. Demonstrate conflict mediation /resolution techniques and discuss ways to seek a safe environment to avoid harm to themself and others.
2. Sports-related injuries can be reduced or avoided through the use of appropriate safety equipment and first aid guidelines. (HP 2)	a. use information about weather safety and exercise precautions to make informed and reasoned decisions to reduce the risk of injury during exercise and sports (1.10; 4.1)	• Given a sample fitness plan, select appropriate exercise and safety measures. Create a personal safe exercise plan that includes selecting appropriate clothing and equipment, e.g., bicycle helmet, knee and elbow pads for skating.
3. Basic first-aid techniques can help to save lives, reduce the severity of an injury and enhance recovery. (HP 7)	a. prioritize and demonstrate the steps involved in assessing an emergency situation, including the 911 call format. Analyze why the processes are used in a sequential order, e.g., ABC of emergencies (3.4; 4.7) b. demonstrate the Heimlich Maneuver and rescue breathing, and other basic first-aid procedures (4.7)	• Demonstrate through role play the steps included in assessing an emergency situation, including ABC assessment and 911 format. • Given a scenario involving common emergency situations, bleeding, fractures, sprains, burns, choking, heart attack, etc., assess and respond appropriately to the situation.

III. Risk Assessment and Reduction

C. Tobacco, Alcohol and Other Drugs (TAOD)

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 8, all students should know that	*By the end of grade 8, all students should be able to*	
1. The ways in which a drug affects the body are determined by the nature of the drug, how it enters the body and how it interacts with the body chemistry. (HP 1, 5)	a. differentiate among the effects of drugs on the body based on their classification, e.g., stimulant, depressant, hallucinogen, narcotic. Categorize into illegal or legal. (3.5; 4.7)	• Given a list of common legal and illegal drugs, differentiate between the two caegories, then classify based on effects on the body, e.g., cocaine-stimulant -effects, alcohol-depressant-effects, marijuana, LSD-hallucinogens-effects.
2. TAOD can affect the healthy functioning of the nervous and reproductive systems as well as other systems previously studied. (HP 1, HP 5)	a. evaluate information regarding body functions and the use of TAOD to determine a cause and effect relationship, e.g., alcohol and impaired judgment, marijuana and short term memory loss, smoking and low birth weight babies (1.6; 1.7)	• Create 1-minute Public Service Announcementss to inform students and parents of findings regarding the relationship between TAOD and body system dysfunctions.
3. The use of TAOD imposes personal health risks as well as family and societal problems. (HP 5)	a. present different opinions and arguments about the effects of TAOD on the individual and others (2.3)	• After viewing a video such as "The Feminine Mistake," invite a counselor or community agency worker to discuss effects of tobacco, alcohol and other drug use on your family and society. • Given a scenario regarding an unsupervised social event, identify and analyze potential risks in that situation.
4. Both smoked and smokeless forms of tobacco can cause serious health problems. (HP 5)	a. make informed decisions regarding the use of tobacco based on knowledge of short and long term effects on the body, and effects on both the individual and society (4.1)	• Interview a doctor, nurse or dentist regarding effects of smokeless or smoked tobacco on individuals, especially young people. Present findings to the class.
5. There are guidelines and precautions for the use of over-the-counter and prescription drugs. (HP 5)	a. Differentiate between over the counter and prescription drugs, their purpose, precautions and guidelines for use (3.5; 4.7)	• Develop over-the-counter and prescription drug guidelines to be posted in a home medicine cabinet or shelf.

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
		• Assume the role of a doctor or pharmacist and describe to a partner the difference between prescription and over-the-counter drugs and guidelines for their use. Then assess partner's understanding by giving a list of scenarios regarding the use of prescription and over-the-counter drugs, e.g. "I'm feeling better, I don't need this medicine anymore." Partners should choose correct responses based on an understanding of prescription and over-the-counter use and guidelines.
6. Peers can have both a positive and negative influence on one's decisions regarding TAOD use. (HP 2, HP 5)	a. compare peer pressure to peer support and evaluate how each influences the making of informed and reasoned decisions regarding TAOD use. (1.1; 3.6)	• Through given situations, identify problems related to peer pressure and the use of TAOD. Turn the peer pressure into peer support, then evaluate the peer pressure reversal techniques used.
7. Adolescents can find many healthy alternatives to tobacco, alcohol and other drug use. (HP 5)	a. Plan strategies to resist pressures both from self and others to use TAOD. (3.2; 3.3; 3.7)	• During a class panel discussion, discuss the types of peer pressure experienced during adolescence. Rest of class selects appropriate measures to handle the pressures and evaluates the processes used in handling the problem • Work as individuals and collaborate with others to propose healthy alternatives to the use of tobacco, alcohol and other drugs • Given a scenario regarding an unsupervised social event, identify and analyze potential risks in situations and brainstorm a list of healthy alternatives.
(NOTE: TAOD prevention involves more than the study of drugs and their effects on the body. Factors such as positive self-concept, family support, peer relationships, learning how to make good decisions, are all important in drug prevention. These concepts are included in Social Systems and in Life Management Skills in this Framework.)		

III. Risk Assessment and Reduction

D. Environmental Health

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 8, all students should know that	*By the end of grade 8, all students should be able to*	
1. The environment impacts their health and can cause or exacerbate specific conditions such as asthma, skin cancer, hearing loss. (HP 3)	a. recognize existing and potential environmental health problems within their community and address these problems through creative solutions and health advocacy (3.1; 3.2; 3.3)	• Research a specific disease caused by environmental factors, e.g., skin or lung cancer, and report findings to the class. • Collect and weigh the amount of trash around the school to predict the long-term effects of land pollution on human health. Assess neighborhoods for other environmental hazards including noise, air pollution, water contamination, etc.
2. Overpopulation, overuse of resources and pollution can damage the environment and disrupt ecosystems. (SC 4)	a. evaluate the potential results of an environmental solution considering such issues as aesthetics, ethics, and societal responsibility (3.6; 3.7; 4.3)	• Given an environmental problem such as air pollution from power plants, examine the issue from the perspective of the power plant, the EPA, the neighborhood association around the power plant, the people who buy the electricity, etc.
3. Individuals and communities have the responsibility to protect and improve the enviroment in which they live. (SC 4)	a. work as individuals and collaborate with others to safeguard the health of the environment (recycling, reducing waste, reusing items, etc.) (4.7)	• Develop a school Environmental Safety Patrol that examines potential environmental risks in your school environment and make recommendations to improve them, including recycling, etc. • Conduct a study regarding the purchasing habits of families in the class. Then study the biodegradable status of a buried potato, paper container, plastic bottle and an aluminum can at regular intervals. Present and display findings. Then make recommendations based on findings.

III. Risk Assessment and Reduction

Students at this level are cognitively and socially capable of exploring disease issues and prevention strategies in more depth. As students mature and become involved in dating relationships, emphasis should be given to the prevention of sexually transmitted diseases including HIV/AIDS. Students should be given the opportunity to compare the effectiveness of abstinence over other methods of sexually transmitted disease prevention. They should become fully informed about assessing their own health, knowing when to seek help and how to communicate symptoms to a health care provider. The influence of one's family or culture on disease treatment should also be explored.

Because most students begin driving during this period, safety issues related to drinking and driving, wearing seat belts, etc. should be emphasized. Students also should evaluate potential hazards in the community and how to reduce risks for self and others. As they become more responsible, contributing members of a community, they should be encouraged to participate in activities that promote neighborhood safety.

Students are experiencing more independence at this age As they become more responsible for their own decisions, they are faced with internal and external pressures to use chemical substances. They need opportunities to examine in more depth the immediate and long-term effects associated with tobacco, alcohol and other drugs including those that alter performance, e.g., steroids. Instruction should include information on laws, school policies and community ordinances governing the use of chemical substances. The effects of tobacco, alcohol and drugs on driving ability, other physical tasks and judgments need to be emphasized. In order to make good decisions, students need opportunities to continue practicing refusal skills and healthy responses to high-risk situations.

Because environmental conditions can affect one's health, students should be able to recognize potentially harmful environmental situations and demonstrate ways to protect themselves. Assessment and risk reduction at this level also includes the ability to assume the role of a health advocate and educate others about harmful health issues.

A. Disease Prevention and Control

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 12, all students should know that	*By the end of grade 12, all students should be able to*	
1. Most communicable diseases have specific modes of transmission, require appropriate conditions for growth in the host, have an incubation period and respond in specific ways to current treatment methods. (HP 5)	a. analyze information about the transmission and prevention of communicable disease to formulate and support a thesis or interpretation regarding the reoccurrence of resistant strains of pathogens (1.1; 1.2)	• Given scenarios of signs and symptoms and/or types of disease, determine potential causes, need for medical treatment and ways to manage the illness or speed recovery.
2. HIV/AIDS has personal, social and economic effects. (HP 5)	a. evaluate how HIV/AIDS affects an individual's personal, social and economic well-being (3.1)	• Create responses to mock letters from students regarding problems associated with HIV/AIDS. Include information about how the disease could have been contracted, the treatments that are available, the short-term and long-term outcomes and possible changes required in his/her lifestyle.

III. Risk Assessment and Reduction

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
3. Sexually transmitted diseases (STDs) have signs and symptoms that indicate abnormalities with the reproductive system. Some STDs have few signs and symptoms until the disease has progressed. (HP 5)	a. evaluate (STDs) to determine patterns of transmission, relationship between causative agent, treatment options and perspectives regarding past and present ways to treat and/or prevent them (1.2; 1.6)	• Choose a specific STD: HIV/AIDS, gonorrhea, syphilis, etc. Write a paper about the signs and symptoms, transmission, treatment and societal, personal and economic impact.
4. STDs can cause permanent complications, not only for the reproductive system, but also other systems of the body. (HP 1, 3)		
5. Abstinence is the best method for preventing STDs and teen pregnancy. Other forms of contraception have varying degrees of effectiveness and side effects. (HP5)	a. using different technological tools, develop a comparison chart including effectiveness, side effects, complications, and social considerations of various methods of contraceptives (1.8; 2.7) b. make reasoned and informed decisions regarding the benefits of abstinence by evaluating information on contraception to determine effectiveness, side effects and potential complications (1.7; 4.1)	• Debate the use of contraceptives for preventing HIV/AIDS/STDs and pregnancy, considering the cost, side-effects, convenience and effectiveness as well as moral issues.
6. Self examination (breast in women, testicles in men) and being aware of cancer signs and symptoms aid in early detection and treatment. (HP 1, 5)	a. select and apply self-assessment techniques to improve early detection of diseases and treatment options, including self breast examinations, testicular exams and Pap tests (1.10; 4.7)	• Use breast and testicular cancer models learn about self-assessment. Research family incidence of cancer in class, and compare to national data. Evaluate which cancers seem most prevalent and make recommendations for reducing the numbers based on findings.
7. Routine physical examinations and tests, e.g., Pap smears, mammograms, are also important practices to reduce their risk of problems related to cancer and other chronic diseases. (HP 5)	a. assess costs, benefits and consequences associated with self-examination (3.8)	• Invite a physician, nurse or American Cancer volunteer to talk to class about benefits of self examinations.

III. Risk Assessment and Reduction

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
8. The scientific process can be used to design experiments and test hypothesis related to disease concepts, e.g., effectiveness of disinfectants on bacterial growth. (SC 7, HP3)	a. conduct laboratory investigations to determine the effects controlled and variable conditions have on the growth of organisms. (1.2)	• Design and conduct laboratory inquiries using agar and petri dishes to gather information and to formulate and test hypotheses regarding the effect of different types of disinfectants on bacterial growth.
9. The Center for Disease Control and local public health departments help to monitor and control disease. The Centers for Disease Control and Prevention (CDC) and the National Institute of Health (NIH) contribute to our understanding of diseases through longitudinal epidemiological studies, research and education. (HP 3)	a. using information from a variety of resources, evaluate risk factors to determine why there are cause and effect relationships between lifestyle choices and cardiovascular disease (1.4; 1.6) b. conduct research to answer questions regarding epidemiological studies about communicable diseases. (1.2)	• Invite a guest speaker from the local health department to present the role of the CDC, NIH and the department of health in preventing and controlling epidemics in monitoring non-communicable diseases and associated risk factors..
10. Engaging in risk behaviors as a young adult can contribute to the development of chronic disease. (HP 3, 5)	a. identify the relationship between smoking and emphysema or other behaviors that can contribute to chronic disease (1.6)	• Gather and analyze data regarding the incidence of a communicable and chronic disease in the community. Identify an area where effective change could be made and develop a plan for implementing the change.
11. Chronic diseases can be prevented or reduced through risk assessment, disease management and early treatment, and change in lifestyle. (HP 3, 5)	a. analyze past problems related to chronic diseases to develop strategies to predict, prevent, solve or manage present or future disease-related problems (1.2; 3.2)	• Given specific case studies involving chronic diseases and disorders, research the disease and propose adaptations in health habits, nutrition, living arrangements, personal environment, etc., that would lessen the problems associated with the disease/disorder.
12. Disease prevention, diagnosis, and treatment throughout history contributes to our present understanding and treatment of diseases. (HP 3)	a. interpret past human experiences regarding disease epidemics and apply the knowledge learned to new situations regarding disease detection, treatment and prevention (1.9; 1.10)	• Assuming the role of an investigative reporter who has seen an increase in heart-related deaths in the community, select and apply appropriate resources to research how risk factors contribute to cardiovascular disease. Plan an effective special edition article to inform the community of the findings.

III. Risk Assessment and Reduction

B. Injury Prevention and Safety

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 12, all students should know that	*By the end of grade 12, all students should be able to*	
1. Maturation experiences during adolescence brings the potential for new social problems that should be examined including strategies to prevent, manage or report concerns and receive treatment related to abuse, exploitation and harassment. (HP 5)	a. demonstrate strategies for resisting social problems related to abuse, exploitation or sexual harassment (3.1; 3.2; 4.7) b. consider the viewpoints of others when discussing issues regarding sexual harassment, its effects upon individuals and strategies to prevent or handle it (2.3; 3.2)	• Create a *Newsweek* special edition on violence in America in which rape, assault and sexual harassment are investigated and preventive strategies are outlined.
2. Societal problems affecting teens includes rape, assault, homicide and other personal safety risks. Assessing, preventing or minimizing their risks are important strategies to learn for self protection. (HP 5)	a. describe and analyze methods that can be effective in preventing rape, assault, homicide and other personal safety risks (3.7; 4.7) b. apply problem-solving skills to assess unsafe situations and the potential risks of injuries, then determine strategies to reduce their risk (3.2; 3.3; 3.6; 4.1)	• Use effective communication techniques for various mock situations, e.g., school, work, dating, that reduces, the potential for sexual harassment. • Role-play a situation such as an intoxicated driver, unsupervised party. Analyze the potential risks and offer possible solutions which are then acted out. After the scenario is completed, analyze and evaluate processes used in solving problems. • Write a letter to the newspaper editor or to the City Council stating concerns regarding violence in today's society and propose solutions.
3. CPR, the Heimlich Maneuver and methods to control bleeding are life-saving procedures that can reduce the risk of sudden death. (HP 7)	a. identify situations or health conditions that can cause cardiopulmonary arrest and describe the life-saving procedures such as CPR (3.1; 4.7) b. identify potential causes related to spinal cord injuries and demonstrate appropriate first-aid procedures for handling such injuries (3.1; 4.7)	• Read a problem related to an injury or emergency, e.g., sprain, broken arms, second degree burn, jammed finger, bleeding, cardiac arrest. Assess what is wrong, demonstrate proper procedures and verify whether the solution addresses the problem to which it was applied.
4. There are first-aid procedures and preventive practices for handling weather-related emergencies including hypothermia, frostbite, heat exhaustion and heat stroke. (HP 7)	a. describe the most common weather-related emergencies and verify whether a procedure addresses the injury problem to which it was applied. (3.5; 3.7; 3.8)	• Given a scenario, select and apply first-aid strategies for the prevention and treatment of weather-related emergencies including hypothermia, frostbite, heat exhaustion and heat stroke. • Survey high school students to analyze their ability to apply appropriate first aid strategies to the emergencies described.

III. Risk Assessment and Reduction

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
5. There are ways to successfully assess and treat a variety of first-aid emergencies including sports injuries, exercise-induced problems and indoor/outdoor emergencies, e.g., inhalation, poioning, bee stings, snake bites, near-drowning. (HP 7)	a. select and apply appropriate first-aid procedures and practices to treat a variety of injuries and emergency situations including shock, bleeding, fractures, etc. (3.2; 3.3)	• Plan and create a reference booklet for a middle school safe sitters class describing ways to handle common indoor and outdoor emergencies.
C. Tobacco, Alcohol and Other Drugs (TAOD)		
By the end of grade 12, all students should know that	*By the end of grade 12, all students should be able to*	
1. Tobacco, alcohol, and other drug use and abuse poses a large personal, social and economic threat to our society. (HP 5)	a. make informed decisions regarding the use of alcohol based-on knowledge of its short and long term effects on the body and its effects on both the individual and society (3.8; 4.1; 4.7) b. identify, analyze and evaluate a drug related issue or problem and predict long-term consequences (1.6; 4.3)	• Analyze and debate the pros and cons of prohibiting smoking in schools or in the workplace versus assigning designated smoking areas.
2. There are ways to assess their risk of chemical dependency and to find help if TAOD use/abuse is a problem. (HP 5)	a. evaluate personal risks for chemical dependency based upon personal, family and environmental factors (4.3; 4.7)	• Invite a psychologist, counselor or social worker to discuss with the class the topic of chemical dependency, its risk factors and ways to get assistance.

III. Risk Assessment and Reduction

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
3. Anabolic steroids (drugs used by individuals to develop muscles and body strength) can cause severe damage to the liver and heart as well as other organs of the body. (HP 5)	a. identify and describe the long-term physical and psychological effects of steroid use, considering their effect upon individuals and society in which an idealized body image and win-at-all costs mentality takes precedent over health (1.1; 4.7)	• Prepare P.E. locker tags and posters that include the effects of steroids and the problems associated with the media's representation of an idealized body image.
4. Drugs taken during pregnancy may pass into the fetus's bloodstream, causing the child to be born with deformities, retardation, and learning disabilities. (HP 5)	a. analyze the effects of tobacco, alcohol and other drugs on the unborn child (3.1; 4.3)	• Research the short- and long-term effects of tobacco, alcohol and other drugs on the body and on the unborn child. Present to the class through a mock trial or insurance company hearing.
5. Alcohol progressively affects areas of the brain inhibiting other bodily functions and causing changes in mood, thought processes, mental ability, coordination and reaction time. (HP 5)	a. evaluate information to determine a cause and effect relationship between alcohol use and emergency situations (1.6)	• Research automobile accidents where alcohol or drug use was involved, organize the data into a graphic form, then express a personal opinion in a written or oral presentation about driving while under the influence of alcohol and other drugs.
6. Individual responsibility, health promotion and alternatives to the use of chemical substances can help to promote individual family and community health. (HP 2, HP5)	a. work individually and with others to propose alternatives to teenage drinking, tobacco and other drug use (3.6; 4.6)	• In a class roundtable discussion, identify and consider a variety of viewpoints when solving problems related to alcohol use during school sports events and activities. Select strategies through consensus building and report solutions to student government and PTA.
(**Note**: TAOD prevention involves more than the study of drugs and their effects on the body. Factors such as positive self-concept, family support, peer relationships, learning how to make good decisions are all important in drug prevention. These concepts are included in Social Systems and in Life Management skills in this Framework.)		

III. Risk Assessment and Reduction

D. Environmental Health

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 12, all students should know that	*By the end of grade 12, all students should be able to*	
1. Preservation of a healthy environment includes individual responsibility, societal commitment, government regulations and health advocacy for the monitoring, reporting and prevention of potential environmental hazards. (SC 8)	a. examine ways that individuals, communities and state and federal government cooperate to promote environmental health (3.2; 4.3) b. apply aesthetic consideration when addressing environmental health issues (1.10; 4.7)	• Create and distribute brochures which illustrate environmentally sound consumer alternatives for using disposable items such as paper, disposable diapers, Styrofoam products. • Assume the role of an advocacy group and have class write letter to local, state and national government representatives. • Debate an environmental health issue assuming the roles of government, industry, naturalist, etc. Propose solutions base on different viewpoints.
2. Destruction of the ozone layer and global warming affect the health of individuals on a worldwide scale. (SC 7)	a. assess environmental health risks in their community and in the workplace. Compare present environmental problems to the past and propose ways to reduce environmental health problems in the future (2.1; 3.1; 3.2) b. analyze family histories to determine genetic risks and potential health problems related to exposure to environmental pollutants (1.9; 1.10)	• Collaborate with others to categorize environmental pollutants into air, land, chemicals, noise, etc. Research how each contributes to health problems and develop individual, community and government goals and a plan of action to address the problem.

IV. EFFICIENCY OF HUMAN MOVEMENT AND PERFORMANCE

A. Fundamental Movement Skills and Games (K-8)
B. Sport Skills and Lifetime Activities (4-12)
C. Rhythms and Dance (K-12)
D. Principles of Human Movement (K-12)

K-12 Content Overview

The development of the physically educated person is the primary goal of a quality physical education program. The physically educated person (1) has learned skills necessary to perform a variety of physical activities, (2) is physically fit (3) does participate regularly in physical activity (4) knows the implications of and the benefits from involvement in physical activities and (4) values physical activity and its contribution to a healthy lifestyle.

Providing opportunities for children to develop proficiency in human movement and performance is the responsibility of every school. Physical education curriculum has the primary responsibility for preparing children and youth to learn fundamental movement skills and games, sport skills and lifetime activities, rhythms and dance, and the principles of human movement. A knowledge of the efficiency of human movement and performance leads to an understanding of how and why they should develop a healthy, active lifestyle.

The school plays a vital role in teaching children the importance of engaging in a healthy, active lifestyle. The curriculum should not only stress the importance of physical activity but also promote social, mental, and emotional development in order to obtain optimal health and well-being. Students should have the opportunity to participate in and understand the importance of physical activity for enjoyment, fitness improvement, skill development and social development.

IV. Efficiency of Human Movement and Performance

A. Fundamental Movement Skills and Games

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 4, all students should know that	*By the end of grade 4, all students should be able to*	
1. Fundamental skills are divided into three categories: locomotor, nonlocomotor and manipulative. (HP 4)	a. demonstrate mature form in all locomotor patterns and selected nonlocomotor and manipulative skills (1.8, 1.10)	• Demonstrate basic locomotor, nonlocomotor and manipulative skills in games, with music, and in a variety of movement that lead to effective body management. • With a partner, demonstrate unilateral, bilateral and contralateral activities.
2. Balance is a complex part of physical activity. Balance is static and dynamic and reflects the ability to maintain equilibrium in relation to the force of gravity. (HP 4)	a. demonstrate balance and control on a variety of body parts and objects through developmentally appropriate activities (1.10)	• In personal space, balance on one body part, two body parts, using a variety of objects, balance board, scooters, skates, etc. • Move through an obstacle course that involves several turns with a beanbag on the head or other body part.
3. Knowledge of the physical self is developed through identification of external body parts. (HP 1, 4)	a. organize information about major external body parts to demonstrate understanding of their location (1.8)	• Correctly identify body parts through music cues in "Looby Loo" and "Hokey Pokey."
4. Specific concept, (e.g., spatial awareness and body awareness) and skills, (e.g., catching, throwing, and kicking) in the primary grades are the foundation for a broad spectrum of sport and physical activities. Competence in the basic movement forms leads to skill mastery and to combinations of skills at intermediate and upper elementary grades. (HP 1, 4)	a. demonstrate developmentally appropriate competence in combinations of fundamental skills performed individually and with others (1.10) b. acquire beginning skills of a few specialized movement forms (1.10)	• Perform a mature catch , throw and kick using age-appropriate equipment. • Develop and perform a refined movement sequence with a repeatable pattern, e.g., dance. • Drop the ball and bat it against a wall after it bounces and keep the ball going as in handball. • Through participation in drills, dribble and pass a basketball to a moving receiver. • Through participation in drills, dribble a soccer ball through a designated obstacle course.
5. Games are for enjoyment while allowing for the application of movement and promoting socialization. (HP 4)	a. demonstrate motor skills and knowledge of the rules when participating in low-organized games (1.10) b. cooperate effectively with a partner and a group to accomplish an assigned task during games and activities (4.6)	• In groups, perform various dance activities with a parachute. • With a partner, toss a beanbag back and forth. Toss in various directions to make partner move and catch. • In cooperative groups, create a relay or tag game to share with the class.

IV. Efficiency of Human Movement and Performance

B. Sports Skills and Life-time Activities

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade four, all students should know that	*By the end of grade 4 all students should be able to*	
1. Emphasis of instruction should be on fundamental skill development, developmental games and activities. (HP 4)	a. demonstrate competence in a variety of fundamental skills and a few selected sport skills (1.10) b. demonstrate proficiency in the application of movement knowledge and social skills in a variety of low-organized and lead-up games (1.1)	• Toss a ball and catch before it bounces twice. • Using properly positioned hands, catch a gently thrown object. • Using the hands or feet, continuously dribble a ball without losing control. • Strike a ball repeatedly with a paddle. • Demonstrate the difference between an over and underhand throw. • Without hesitating or stopping , kick a stationary ball using a running approach. • Kick a slowly rolling ball into the air or along the ground using the inside or instep of the foot. • Consistently strike a softly thrown ball with a bat, paddle or racquet.
2. Some specialized skills basic to a movement form are acquired and used individually as well as with a partner (e.g., soccer dribble, basketball chest pass.) (HP 4)	a. display basic skills and safety procedures when participating in an outdoor pursuit (4.7) b. demonstrate competence in basic swimming strokes and survival skills in, on and around the water (4.7)	• Using map symbols or road signs, design a treasure hunt/relay to match the symbol with a clue or its real feature where possible.
3. Progression moves from simple skills and combinations to the skill combinations and specialized skills needed for dynamic game-like situations and group participation. (HP 4)	a. cooperate effectively with partners and small groups to accomplish an assigned task or achieve a goal (4.5; 4.6) b. demonstrate competence in stunts and tumbling activities through animal movements, tumbling and inverted balances; balance individual, partner and group stunts; and partner support stunts (1.10) c. use technological tools and other resources to locate, select, and organize information (1.4)	• Hand dribble and foot dribble a ball and maintain control while traveling in groups. • Using written skill based evaluation, demonstrate an acceptable level of performance in selected activities. • use computer software to learn about various lifetime activities, equipment, safety and rules of behavior, e.g., bicycle safety.

IV. Efficiency of Human Movement and Performance

C. Rhythms and Dance

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 4, all students should know that	*By the end of grade 4, all students should be able to*	
1. Music has essential characteristics that can be recognized and understood. These characteristics include tempo, beat, meter, measure, intensity, mood, accent, phrase rhythm pattern and underlying beat. (FA 1)	a. identify, apply and respond to terms which apply to music and dance (1.10)	• Use drums, rhythm sticks, rhythm instruments and body sound (e.g., snapping fingers, stomping, clapping) to demonstrate or identify different music skills in various music selections. • Using a square set, promenade a partner. • Using rhythm sticks, demonstrate the difference in an even and uneven rhythm. • Travel, changing speeds and directions in response to changing tempos.
2. Dance is an art form as well as a social activity. The historical and cultural origins of dance help to better understand individuals of different cultures. (FA 2)	a. identify the historical and cultural origin of dances (1.10) b. demonstrate step patterns, positions and formations common to a variety of dances (1.10)	• Identify the names, origins and rhythm patterns of various folk dances. • Demonstrate the bleking step and the step-hop when performing "Bleking."
3. Rhythm and dance activities allow for creativity, self-expression and development of fundamental movement skills. (FA 1, HP 4)	a. perform rhythmic routines using fundamental movement skills and/or manipulatives (2.5) b. participate in creative dance activities demonstrating dramatization, imitation, interpretation and improvisation (1.10) c. demonstrate competence in dance and rhythms activities using multiple sources of information (1.10)	• Create a rhythmic routine that involves the manipulation of an object (e.g., rope, hoop, ball) while moving to a rhythmical beat. • Create a short and complete idea through a dance. • Imitate various animal sounds and movements creatively and to musical cues. • Combine various traveling patterns in time to music. • Identify and competantly perform a variety of line dances without a partner. • Identify and competently perform various folk dances including square dances.

IV. Efficiency of Human Movement and Performance

D. Principles of Human Movement

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 4 all students should know that	*By the end of grade 4, all students should be able to*	
1. There are two major components of motor skill development, skill techniques and movement concepts which are important to a primary student. Skill techniques including critical elements and refining skills through practice are important in the intermediate grades. (HP 4)	a. identify and apply critical elements to improve personal performance in fundamental and selected specialized skills (1.10) b. use critical elements of fundamental and specialized skills to provide feedback to others (2.3) c. demonstrate progress as a result of practice (1.10)	• Perform a magic rope routine to demonstrate foot-eye coordination. • Catch various objects to demonstrate visual tracking skill. • Accurately recognize the critical elements of a throw made by a fellow student and provide feedback to that student. • Record in a log the results of a specific skill during a 10-minute daily practice period for 2 weeks. Analyze the information shown to determine progress over time.
2. Movement concepts are divided into four categories (1) body awareness (2) space awareness (3) qualities of movement (time or speed, force and flow) and (4) relationships (among body parts, with objects and/or people). (HP 1, 4)	a. apply movement concepts to movement combinations and basic skills (1.10)	• Use concepts of space awareness and movement control to run, hop and skip in different ways in a large group without bumping into others or falling. • Use static and dynamic balance activity to apply various mechanical principles, e.g., tug of war. • Using a variety of equipment, demonstrate in a general space the ability to move in various ways, e.g., over, under, around, through, between. • Create a combination of shapes, levels and pathways into simple sequences.
3. The effective performance of movement skills requires an understanding of mechanical principles, i.e., stability, force, leverage, center of gravity, motion and direction. (HP 4)	a. recognize and apply mechanical principles that impact the quality of movement (1.10)	• Demonstrate the effects of the angle of trajectory and transfer of weight when throwing various objects. • Participate in teacher-directed drills to demonstrate the principles of base of support and center of gravity, e.g., run on command, come to a stop to maintain balance and then run on a separate command.

IV. Efficiency of Human Movement and Performance

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
4. Exploratory activities are intended to help children understand how their bodies move and allow them to experiment with movement. (HP 4)	a. identify and respond appropriately to information from multiple sources to explore and improve skills e.g., tactile, auditory, visual and kinesthetic (1.5)	• Through drumbeats, musical cues and verbal cues, demonstrate various combinations of movement concepts and fundamental motor skills individually, with a partner and with a small group. • Form letters or figures with body on the floor or in erect positions.
5. The musculature involved in correct posture must be balanced to hold the bones and joints properly in place. (HP 1, 4)	a. demonstrate correct posture when standing, walking, sitting and lying (1.10) b. discover and evaluate the major types of joints found in the human body and the action they perform (1.6)	• Participate in "Standing" posture checks. • Identify a ball and socket joint in the body and describe how it moves.

IV. Efficiency of Human Movement and Performance

A. Fundamental Movement Skills and Games

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 8, all students should know that	*By the end of grade 8, all students should be able to*	
1. The development of their fundamental skills allows for a competent level of participation in cooperative and competitive games. (HP 4)	a. combine locomotor, nonlocomotor and manipulative skills in sequences of specific movement forms (1.10)	• Working in small groups, design a jump rope routine including basic as well as combination skills and set it to music.
	b. detect, analyze, and correct errors in personal movement patterns (1.6)	• Following a period of practicing throwing different types of objects, e.g., Frisbees, footballs, complete a peer assessment and/or a self-assessment of throwing performance, based on established criteria and then record progress in a journal. • Work with a partner in a variety of self-test activities, e.g., combatives.
	c. using mature motor patterns, combine movement skills and concepts effectively in a variety of games and activities (1.10)	• Working in small groups, compose an expository paragraph which explains how to perform a specified skill in detail. Evaluate the effectiveness of writing and explanation of skill by demonstrating another group's instructions. • Leap, roll balance, transfer weight, bat, volley, hand and foot dribble and strike a ball with a paddle using mature motor patterns in selected activities. • To improve eye-foot coordination, create a foot-bag game to be used with a small group. • To improve eye-hand coordination, design a juggling challenge for a partner. • Demonstrate fielding a softball that is hit or thrown on the ground.

IV. Efficiency of Human Movement and Performance

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
2. Games present an opportunity to participate in enjoyable activities while developing physical skills as well as social skills, e.g., cooperation, competition and sportsmanship. Games beginning in the intermediate grades are divided into two categories: low organization games and sport lead-up games. (HP 4)	a. engage in activities that provide for challenge, problem solving, decision making and risk taking (4.7)	• Design and play small group games that involve cooperating with others to keep an object away from an opponent. • Work in small groups to solve physical challenges, e.g., trust falls, human knot, partner pull-up. • Participate in a variety of lead-up games and demonstrate motor skills, rules and basic strategies, e.g., line soccer, dribble tag, king of the mountain. • Participate in a variety of low-organized games demonstrating skill, appropriate behavior and enjoyment in the activity, e.g., tetherball, four square, Frisbee, golf.

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IV. Efficiency of Human Movement and Performance

B. Sports Skills and Life-Time Activities

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 8, all students should know that	*By the end of grade 8, all students should be able to*	
1. Sports and lifetime activities involves cognitively understanding the history, rules, strategies, safety principles and skill development in modified versions of team, individual sports, dual sports, aquatics, tumbling/gymnastics and outdoor pursuits. (HP 4)	a. demonstrate application of terminology, scoring, rules of play, skill techniques, etiquette, safety principles and basic intermediate game strategies for the sport units covered in the instructional program (1.10)	• Correctly execute an overhand volleyball serve, overhead pass/set and forearm pass/bump while playing in a modified games. • Execute the skills of batting throwing, fielding and base running while participating in a regulation-type softball game. • Follow rules of the road to maximize safety when cycling. • Design or create a game with objectives, rules and strategies for a specified number of players.
	b. analyze and use basic to intermediate offensive and defensive strategies in games and modified versions of sports (1.10)	• Diagram and demonstrate the basic receiving formations for a volleyball team. • Describe orally or in writing the offensive and defensive positioning of the players on a soccer team and the major responsibilities associated with each.
	c. discover the history and role of games, sports and dance in getting to know and understand people of diverse cultures (1.6)	• As a class, design a mini-Olympics competition for the entire school. Include history and evaluation from ancient games to present day Olympics, origin of activities, countries that dominate certain activities, famous Olympians and Olympic records. • During the study of foreign countries, incorporate the exercise/sport activities of that country into a "Foreign Country Day," e.g., France-luge.

IV. Efficiency of Human Movement and Performance

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
2. The development and practice of skills is essential to individual enjoyment and participation in physical activities. (HP 4)	a. consistently demonstrate basic to intermediate competence in a variety of activities to include dual individual and team sports, outdoor pursuit skills, aquatics, tumbling and gymnastics (1.10)	• Perform a gymnastics routine for either mat or apparatus, including an approach, development and dismount. • Use maps and compass for navigation through an orienteering course. • Create a routine, combining skills used in a specific sport and perform the routine to music, e.g., Harlem Globetrotters routine utilizing ball-handling skills. • Use a sports magazine and newspaper photos to create a display that illustrates a specific movement concept. • Create a portfolio demonstrating competence in a selected number of movement forms. Competence can be verified with a videotape of performance or certification of participation, e.g., all-stars, equestrian show, Red Cross certification. • Using a written /skill-based evaluation, demonstrate an acceptable level of performance in selected activities.
	b. use technological tools and other resources to locate,select, and organize information (1.4)	• use computer software to enhance understanding of various lifetime activities, equipment, safety and rules of behavior

IV. Efficiency of Human Movement and Performance

C. Rhythms and Dance

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 8, all students should know that	*By the end of grade 8, all students should be able to*	
1. The historical and cultural study of dance offers the opportunity to actively participate in learning while developing social, dance and rhythm skills. (FA 5)	a. discuss cultural and historical context of at least one dance currently danced in the community (2.3)	• After studying the origin and history of why music was played during the opening and closing ceremony of the Olympics, discuss the symbolism. • After studying how music and dance have always been a part of the ancient and modern Olympic games, relate the music, dance and drama of selected countries.
	b. design and perform rhythm and dance that combine locomotor and nonlocomotor movements into smooth flowing sequences with intentional changes in direction, speed and flow (2.5)	• Create movement sequences alternating movement and balance and synchronize to a fast tempo music selection. • Develop a movement routine that involves the manipulation of an object while moving to a rhythmical beat.
	c. demonstrate appropriate social skills while participating in dance activities, including etiquette and courtesies appropriate to various dance forms (1.10)	• Brainstorm and demonstrate acceptable social etiquette for a social dance, comparing and contrasting dances with and without partners.
	d. competently perform dances from various cultures and describe similarities and differences in patterns, positions and steps (2.5)	• Perform different dances, e.g., Grand March, Cotton-Eyed Joe and Virginia Reel, then compare the different steps involved in the dances.

IV. Efficiency of Human Movement and Performance

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
2. Self expression and creativity continues to be developed by studying the aesthetics and choreography of dance. (FA 1)	a. recognize the aesthetic and creative aspects of dance performance (1.9)	• Discuss in small groups how different accompaniments can affect the meaning of dance. Present illustrations of the findings to the class. • After viewing a variety of music videos, identify examples of aesthetic and creative aspects of dance performance.
	b. discover, evaluate and discuss how dance is different from other forms of human movement (1.6)	• Design a "Sports Dance" that will depict the combination of skills and movement concepts within a sport.
	c. describe ways to use the body and movement activities to communicate ideas and feelings (2.4)	• Create a music video to a well-known song demonstrating creative expression, choreography and flow that corresponds with the beat and theme of the song.
3. Dance is both a fitness and life-time activity. Dance improves cardiovascular endurance, coordination, flexibility, kinesthetic awareness, muscular endurance and muscular strength. (HP 4, FA 2)	a. demonstrate how dance can improve individual fitness (1.10)	• Create an audiovisual tape appropriate for exercising to music. Design an exercise routine to accompany the music that emphasizes a specific fitness component. • In small groups, create an aerobic routine to music that emphasizes cardiovascular fitness.
4. The skills developed in fundamental rhythms lay the foundation for developing more precise dance skills of folk, social and square dance as well as creative dance.	a. exhibit basic dance skills and fundamentals while performing various dances, e.g., folk, square, aerobic, line (2.5)	• Participate in a culminating activity such as a "Bandstand Day" where students perform the dances taught. • Meet an acceptable level of performance on a written/skill evaluation.

D. Principles of Human Movement

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 8, all students should know that	*By the end of grade 8, all students should be able to*	
1. To effectively improve performance, the critical elements involved in a skill must be understood and applied. (HP 4)	a. identify and apply critical elements to improve performance in selected skills (1.10)	• Explain why "full range of motion" is necessary in implementing effective practice procedures in selected activities, e.g., throwing a ball, and weight training.
	b. identify the characteristics of highly skilled performances in a few movement forms (1.10)	• View a videotaped or live performance of elite athletes and describe the skills and characteristics necessary for success, e.g., volleyball match, and gymnastics competition.
2. Skill is developed through constantly well-guided and informative practice. However practice alone is not sufficient for improvement. Feedback or knowledge of results must also be [illegible] for correct skill acquisition to occur. (HP 4)	a. recognize and apply principles of motor learning, e.g., transfer of learning (1.10)	• Relate the similarities in the underhand serve in volleyball, the underhand pitch in softball then demonstrate the transfer of learning. • Relate the forehand drive in tennis to the forehand drive in badminton to explain negative transfer of learning.
	b. detect, analyze and correct errors in personal movement patterns through self-evaluation and peer/teacher feedback (4.5)	• Use a checklist to provide feedback on the skill of a partner in a psychomotor activity. • Reform a self-assessment of progress in throwing different types of objects, e.g., Frisbee, softball, basketball, football, deck tennis rings. Record in a journal and identify differences and similarities that occur when applying the principals of throwing to different objects.

IV. Efficiency of Human Movement and Performance

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
3. Improvement of skill and performance can be achieved by applying biomechanical and physiological principles to physical activity. (HP 4)	a. recognize and apply biomechanical principles that impact the quality of movement, e.g., Newton's laws of motion, spin, rotation and torque (1.10)	• Demonstrate the application force and speed, to run and jump for distance and height. • Design physical activity that demonstrate various scientific principles/concepts.
	b. discover, evaluate and explain how growth in height and weight influences the mechanical nature of performance in physical activities (1.6)	• Experiment and test trajectory and Newton's Second Law by throwing different sizes of balls and recording the results. Draw conclusions regarding which size of ball traveled further, how speed affects trajectory, etc. • Partner identifies the type of spin placed on the ball when serving overhand in volleyball.
	c. identify isometric, isotonic and isokinetic exercises and relate each to efficient development of muscular strength and endurance (1.6)	• Through class discussion, compare body types and shapes necessary for optimal performance in a variety of track and field events, e.g., distance runners and throwers. • Select exercises and activities (with and without special equipment) that meet personal muscular strength and endurance needs. Design an exercise plan based on those needs.

IV. Efficiency of Human Movement and Performance

A. Fundamental Movement Skills and Games

Due to the progression of curriculum development, fundamental movement skills and games should be provided to students from kindergarten through eighth grade and should not be addressed at the high school unless the skill level in these areas necessitates it.

B. Sports Skills and Lifetime Activities

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 12, all students should know that	*By the end of grade 12, all students should be able to*	
1. Sports and lifetime activities involve cognitive understanding of the history, rules, strategies, safety principles and skill technique that comprise team sports, individual sports, dual sports, aquatics, tumbling, gymnastics and outdoor pursuits (HP 4)	a. demonstrate consistently the application of sports terms, scoring, etiquette and rules of play, skill techniques, safety principles, intermediate to advanced game strategies for sport units covered in the instructional program (1.10)	• Select and research two outdoor pursuits then compare and contrast their effects on the environment. Present findings to the class. • Use a written or skill-based evaluation to demonstrate an acceptable level of performance.
	b. recognize the influences of participation in sport on developing appreciation of cultural, ethnic, gender, and physical diversity (1.6)	• Gather a list of various professional, college, and high school mascots and identify which might be offensive for different cultural, ethnic and gender groups. • Interview a foreign exchange student regarding sports in their culture. Compare and contract to U.S. culture and sports.
2. The principles of human movement play an important role in the improvement of individual sports skills. (HP 4)	a. consistently demonstrate intermediate to advanced competence in a variety of activities to include individual/dual and team sports, outdoor pursuit skills, aquatics gymnastics and tumbling (1.10)	• Develop a portfolio documenting students' proficiency in at least two sport-related skills. • Plan practice sessions applying processes and knowledge from scientific principles to improve performance.
	b. independently apply advanced skill-specific information for a self-selected activity (1.10)	• Pass the intermediate or advanced Red Cross swimming requirements. • Use a variety of clubs competently to play a round of golf.

IV. Efficiency of Human Movement and Performance

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
3. Cooperating and meeting with others of varying abilities provides enjoyment and encourages regular physical activity which leads to a healthy lifestyle. (HP 2)	a recognize that physical activity can provide opportunities for positive social interaction (1.6)	• Participate in a "Big Brother/Sister" program with a peer. Teach the individual how to play or participate in a selected activity. Maintain a log and record feelings about teaching and sharing the activity with someone else. Note also the reaction of the "little brother/sister."
	b. work as individuals and collaborate with others to accomplish tasks or reach goals when involved in various physical activities (4.6)	• Participate in a ropes course activity in which you work to accomplish the groups goals. Rate yourself on selected criteria, e.g., active leader role, supportive follower role.
	c. identify participation factors such as risk and safety factors, personal characteristics, performance styles and activity preferences that contribute to enjoyment and self-expression throughout the life cycle (4.1)	• In cooperative groups, select a physical activity and list modifications for participants of various age groups. Report findings to the class. Through class discussions. evaluate why some sports lend themselves to lifetime activity and others do not.

IV. Efficiency of Human Movement and Performance

C. Rhythms and Dance

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 12, all students should know that	*By the end of grade 12, all students should be able to*	
1. The historical significance of dance provides social, historical, cultural and political meaning unique to each culture. (FA 5)	a. analyze and evaluate the relationship of dance to the development of culture (1.6)	• Prepare a written report describing the role of dance in at least two different time periods/cultures. • Create a time line illustrating important dance events in America in the 20th century. Include social, historical, political, cultural descriptions with each dance represented in the timeline.
2. Rhythm and dance skills, as with any physical skill, are refined through practice and self-evaluation. (HP 4, FA 1)	a. perform, produce and evaluate a variety of dances which represent different cultural backgrounds (1.9; 2.5)	• Create and perform a dance individually or as a group. Videotape while presenting to the class. Using specified criteria, evaluate performance and offer suggestions for aesthetic and skill improvement.
	b. perform basic skills and demonstrate social etiquette in many dance forms and refine these skills through practice, self-evaluation and correction, e.g., social, contemporary, jazz, aerobic, folk and square (1.10)	• Perform basic skills of traditional social dances, e.g., waltz, fox-trot, jitterbug and selected contemporary dances, e.g., rock, disco, line. • Exhibit appropriate social etiquette with peers while performing line dances. • Follow directions and respond to calls in square dancing.
3. Dance is a movement experience that provides social and recreational activity for a lifetime. (HP 4)	a. demonstrate dance and rhythmic activities that use a variety of equipment to communicate ideas and develop various components of fitness (1.10; 2.1)	• Create a tinikling or jump rope routine for an assigned music selection. • Create an exercise routine to music that emphasizes muscular strength and endurance using hand weights. • Create a dance that effectively communicates a contemporary social theme.
	b. discuss the recreational and social aspects of dance (2.1; 2.3; 2.4)	• Research the history of square dancing in the United States and Missouri. Prepare a display on the findings that includes recreational and social benefits as well as historical and cultural significance.

IV. Efficiency of Human Movement and Performance

D. Principles of Human Movement

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 12, all students should know that	*By the end of grade 12, all students should be able to*	
1. Since the human body is a system of weights and levers, its efficiency and effectiveness at rest or in motion can be improved by the application of sound mechanical and anatomical principles. (HP 4)	a. critically evaluate the acquisition, execution and continued improvement of skilled physical performances in a variety of complex activities (1.6)	• With a partner, prepare a videotape of each other performing a sport skill, dance or other physical activity of choice. Analyze the performance and prepare a written report including the critical elements required of the skill, a self-analysis of the positive and negative attributes of the performance, and corrective measures needed for improvement.
	b. analyze how the bones, joints and muscles of the human body work as anatomic levers (3.5)	• Discuss the characteristics of each type of lever, when each would be used and illustrate their use in various activities. • Describe the difference between agonist and antagonist muscle groups and explain why it is important to exercise muscles on each side of a joint.
2. Equilibrium, motion, force and Newton's laws constitute the basic principle of mechanics related to the fundamentals of physical activity. (HP 4, SC 2)	a. apply the processes and knowledge learned from scientific principles to gain more efficient use of the body in daily activities, e.g., lifting and reducing injury (1.10)	• Brainstorm how proper body mechanics and exercise can prevent back pain/injury. Develop and implement a flexibility program to prevent lower back problems. • Using a tennis serve, demonstrate how angle of incidence is equal to the angle of reflection. • Define and demonstrate Newton's laws of motion in at least two different physical activities. • In cooperative groups, research the causes, preventions and corrections for selected postural deviations. Present findings to the class. • Using cooperative groups, identify and describe the body joints that are likely to have a loss of flexibility as a result of working in a sedentary job. Present an exercise program that would counteract these effects.

IV. Efficiency of Human Movement and Performance

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
3. The ability to independently learn, self-assess and improve movement skills is achieved by applying principles of biomechanics and exercise physiology to practice and performance. (HP 4)	a. apply the processes and knowledge learned from scientific principles to develop effective practice procedures in order to ensure proficient performance in self-selected activities (1.10)	• In cooperative groups, plan practice sessions, applying processes and knowledge from scientific principles to improve performance. Present the practice session to the class restating the correct skill technique and scientific principles related to the skill. • Devise and perform a gymnastic-tumbling routine after explaining the significance of biomechanical principles to the skills involved.

V. PHYSICAL ACTIVITY AND LIFETIME WELLNESS

A. Personal Fitness/Wellness
B. Responsible Personal and Social Behavior in Physical Activity Settings
C. Injury Prevention/Treatment and Rehabilitation

K-12 Content Overview

Physical activity is an integral part of a multifaceted wellness lifestyle. Regular participation in physical activity has far-reaching effects upon the quality and quantity of life. Scientific studies indicate there are significant differences in the health status of individuals who are active versus those who have a sedentary lifestyle. Schools can assist students in gaining an understanding of the importance of developing and maintaining optimal fitness. Instruction in the principles of physical fitness will address the issues of frequency, intensity and time (FIT) types of physical activity and their effects on the body as well as designing and implementing personal fitness plans. Learning safe and appropriate warm-up and cool-down activities in order to prevent injuries is also an important topic to be addressed.

Students develop appropriate and responsible personal and social behaviors by working independently and with others during planned physical activity. Students learn that effective group work depends on cooperation and fair competition. They also learn to assess situations and to identify and solve problems. Students learn to respect others and appreciate the diversity of our society. The acquisition of positive social skills also contributes to the mental health and well-being of each student by combating risk factors for substance abuse and other social problems.

V. Physical Activity and Lifetime Wellness

A. Personal Fitness/Wellness

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 4, all students should know that	*By the end of grade 4, all students should be able to*	
1. Gaining basic knowledge of the components of health-related fitness is essential to understanding that exercise contributes to good health. (HP 4)	a. identify the components of health-related fitness and relate their importance to individual well-being (4.1)	• Identify each component of fitness and describe an exercise that has the potential to develop that component. • Create a walking/jogging track for a "Walk Across Missouri." The activity focus is goal setting and healthy lifestyle but also provides an opportunity to study the state of Missouri.
	b. differentiate between aerobic and anaerobic exercises when performing individual routines (1.6)	• Use stethoscopes to listen to the heartbeat and to count the number of heartbeats in 10 seconds. • Identify pulse in the carotid and radial artery.
	c. select and participate regularly in physical activities for the purpose of improving skills and health (4.7)	• Record after-school activities for 1 week, indicate the activities that are vigorous in nature, and identify the fitness components related to different activities. Ask parent or guardian to sign the log each day. • Construct a heart obstacle course to examine the circulation of blood.
2. Learning the internal and external body parts and their relationship to developing a healthy body helps in understanding their physical self. (HP 1)	a. identify the major structures and functions of the circulatory, respiratory, muscular and skeletal systems and relate them to the development of a healthy body (1.6)	• Identify and locate the major muscle groups and demonstrate one appropriate exercise for each major muscle group.

V. Physical Activity and Lifetime Wellness

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
3. There are physiological signs associated with engagement in rigorous physical activity. (HP 2, 4)	a. use technological tools and other resources to locate, select and organize information. (1.4)	• Use computer software to gain an understanding of basic anatomy and physiology and the importance of organ systems (1.4)
	b. recognize the physiological indicators that accompany moderate and vigorous physical activity (1.10)	• Keep a record of heart rate before, during and after vigorous physical activity.
4. Health-related fitness testing is conducted for personal fitness assessment. (HP 4)	a. demonstrate an improved and/or acceptable level of performance on a health-related fitness test (4.7)	• Participate in the Prudential Fitnessgram or President's Challenge health-related fitness test.
	b. associate results of fitness testing to personal health status and the ability to perform various activities (1.6)	• Interpret fitness testing results to set individual goals for improvement through a physical fitness contract.
5. Stress is present in many forms at all developmental levels and effective coping and management skills must be learned. (HP 2)	a. develop ways to manage common sources of stress (4.7)	• Discuss the effects of stress on the body. • Use physical activity as a stress management tool.
6. Wellness is developing a positive attitude and quality of life that involves proper diet, exercise and a balance between work, recreation, and family time. (HP 2)	a. use technological tools and other resources to locate select and organize information (1.4)	• Use computer software to understand the relationship between optimal health and nutrition, stress exercise, sleep and aviodance of harmful substances.
	b. explain the role of nutrition and physical fitness in the maintenance of optimal health (2.1)	• Use an activity such as "Cholesterol Tag," Pyramid Relay" or "Pyramid Toss" to emphasize the food pyramid and its relationship to proper diet and good health.
	c. recognize that substance use and abuse is detrimental to a healthy lifestyle (3.1)	• Using a model of the human body, identify body parts and systems affected by alcohol and tobacco use. • Use library resources to research selected health fitness and/or wellness topics.

V. Physical Activity and Lifetime Wellness

B. Responsible Personal and Social Behavior in Physical Activity Settings

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 4, all students should know that	*By the end of grade 4, all students should be able to*	
1. Responsible behavior centers around the development of personal and social responsibility, and acceptable behaviors for physical activity settings can be learned and utilized. (HP 2, 4)	a. work independently and on task for short periods of time and exhibit age-appropriate behavior in a variety of settings (4.3) b. work cooperatively and productively with a partner or small group to achieve group goals (4.6)	• Working independently or in groups, participate in skill training stations such as gymnastics, ball skills and team sports.
2. The purposes for activity, specific safe practices, rules, procedures and etiquette should be identified and followed with few reminders. (HP 4)	a. utilize safety principles and etiquette in activity situations, considering self and others (4.7) b. differentiate between courageous and reckless acts (3.1)	• Create an activity wall chart comparing differences of safety practices, rules, procedures and etiquette for activities studied. • In small groups, create a game using various equipment. Teach the game to other groups specifying safety rules and etiquette.
3. Physical activity provides the opportunity for enjoyment, challenge, self-expression and social interaction. (HP 4)	a. use physical activity as a means of self-expression and enjoy interaction with friends and family members (4.7) b. willingly try new activities to refine skills through self-motivated practice (4.7)	• Through class discussion, create a physical activity calendar for 1 month and encourage family members to participate on activity days.
4. Developing an understanding and respect for differences among people is an integral part of participation in physical activity. (HP 4)	a. recognize the attributes that individuals with differences can bring to group activities, cultural, ethnic, etc. (2.3)	• Create a game in which a person who is physically challenged would be able to compete equally with others. Describe the challenges encountered while participating in the game. • With a partner, focus on a geographical location by presenting a game, dance or other physical activity associated with the origin of the country.

V. Physical Activity and Lifetime Wellness

C. Injury Prevention/Treatment and Rehabilitation

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 4, all students should know that	*By the end of grade 4, all students should be able to*	
1. Prevention techniques for exercise-related injuries include warm-up, stretching, conditioning and cool-down; the use of protective gear; use of proper technique in skill performance; and the implementation of safety practices. (HP 4)	a. distinguish between the terms warm-up, cool-down, stretching and conditioning (1.6)	• With a partner, relate one activity that describes each of the following: warm-up, cool-down, stretching, conditioning.
	b. recognize appropriate warm-up, cool-down and flexibility activities and importance of each to injury prevention (1.6)	• Locate and describe the major body joints. Recognize which flexibility exercises are appropriate for the major joints. • Explain why bent knee sit-ups are recommended instead of straight leg sit-ups.
	c. demonstrate a variety of flexibility, warm-up, cool-down, and conditioning activities (1.10)	• Demonstrate at least 2 minutes of safe and appropriate warm-up and cool-down techniques for aerobic exercise. • Demonstrate correct techniques of static stretches.
	d. discuss the importance of safety in all activities in relation to environmental conditions, proper technique and the use of protective gear (1.10)	• In small groups, discuss why protective gear is important to personal safety (e.g., eye guards, bicycle helmets, knee pads and seat belt).
2. Prevention and treatment techniques involve identifying safe and potentially unsafe situations, developing a competent skill level to allow for safe participation, and being able to provide appropriate assistance in an emergency, such as calling 911. (HP 7)	a. demonstrate the ability to practice health enhancing behaviors and reduce health risks, e.g., follow safety rules, stretching before exercising (4.7)	• In cooperative groups identify behaviors that are safe, risky or harmful to self or others. Compose a list of playground safety rules then use student contract to enforce the rules. • During free play, transfer "rules of the gym" to "rules of the playground."
	b. use technological tools and other resources to, locate, select and organize information (1.4)	• Use CD-ROM to help identify and correct unsafe situations in the home, school and playground.

V. Physical Activity and Lifetime Wellness

A. Personal Fitness/Wellness

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 8, all students should know that	*By the end of grade 8, all students should be able to*	
1. Health-related fitness includes muscular strength, endurance, body composition, flexibility and cardio-vascular fitness. (HP 4)	a. differentiate between activities that will improve skill-related components versus those that will improve health-related components of fitness; correctly demonstrate a variety of activities for both (3.5; 1.10)	• Identify the components of health-related fitness and prescribe at least two exercises and one activity that would contribute to the development of that component. • Identify muscle groups affected by specific exercise and identify those that will maximize muscular strength and endurance. • Using the weight training circuit developed in class, categorize each exercise with the muscle most involved.
	b. determine personal target heart rate and understand its importance to cardiovascular training (4.7)	• Using heartrate monitors on taking your own pulse record heartrate before, during and after engaging in different types of sedentary and active activities each day for a week. Identify the extent to which each of these activities has the potential to contribute to cardiovascular fitness and other components of health-related fitness. • Calculate target heart rate zone.
2. Skill-related fitness includes coordination, agility, balance, power, speed and reaction time. (HP 4)		
3. Principles of exercise play a vital role in establishing personal fitness goals. (HP 4)	a. define the acronym FIT and the principles of overload, progression and specificity as they relate to exercise (1.10)	• Design an aerobic program for individual cardiovascular improvement based on FIT.
	b. use technological tools and other resources to locate, select and organize information (1.4)	• Use interactive computer software to study human anatomy and physiology.

V. Physical Activity and Lifetime Wellness

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
4. Health-related fitness tests are administered to assess personal fitness levels, set personal goals and develop plans for self-improvement. (HP 2, 4)	a. demonstrate an improved and/or acceptable level of health fitness standards as defined by a recognized fitness test (4.7)	• Participate in the Prudential Fitnessgram or President's Challenge fitness test.
	b. analyze and evaluate the relationship of regular exercise to the development of the individual (1.6)	• Maintain a record of performance on health-related fitness times over a period of 1 year on an individual data card to demonstrate progress and minimum criteria. Use this information to assess performance. • Evaluate information obtained from physical assessment and/or health risk appraisal to create a personal fitness plan. • Identify a desired goal related to physical activity, e.g., learning a new skill, reaching a fitness goal. Create a step-by-step plan for meeting the goal. Track the progress of the goal through a written journal sharing feelings after the goal was met. • Watch the movie *"Rudy."* Discuss the goals he made for himself and what he had to do to accomplish those goals. Write a paragraph on personal goals and the importance of those goals.
	c. use technological tools and other resources to locate, select and organize information (1.4)	• Use computer software to assess personal fitness levels.
5. Stress is a physiological and mental response to a stressor. The problem is not stress itself, but how we react to it. Understanding the role of stress management, assists the individual in maintaining health and achieving optimal performance. (HP 2)	a. develop skills necessary to reduce and manage stress (4.7)	• Through brainstorming and class discussion, describe physiological changes associated with stress as well as the positive and negative effects of stress on individual wellness. • Identify, describe and participate in a variety of activities that aid in stress management (e.g., physical activity, time management, stretching and breathing techniques).

V. Physical Activity and Lifetime Wellness

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
6. Wellness refers to the development of the total individual. Social, emotional, physical and mental needs of the individual are important to total wellness. (HP 2)	a. identify and evaluate responsible decision making behaviors as they affect wellness (4.1; 4.7)	• Identify activities that enhance and inhibit a healthy lifestyle. Using these activities, role-play situations appropriate to age and community issues (e.g., substance use) to practice decision-making and refusal skills. • Create a display of advertising campaigns based upon a current role model or product. Recognize that idealized images of the human body and performance, as presented by the media, may not be appropriate to imitate.
	b. identify benefits resulting from participation in different forms of physical activities (3.8)	• Write an essay for national physical education and sport week/month to be printed in the local newspaper that outlines the benefits of participation in physical activities. • Create a video for new students entering the school that outlines the various sport and activity options for people living there, including both school and community resources. • Work individually or with a partner to estimate the distance for a walking/jogging course around the school building,. Determine how long it actually takes to walk the course and then compute your own walking/jogging pace.
	c. determine the relationship between nutrition and weight control (1.6)	• Through class discussion, identify optimum weight and body composition and describe their relationship to a sound nutritional program. • Keep a 3-day food log: Record foods eaten, amount eaten and mood/emotion at the time of eating. When completed, follow with class discussion relating characteristics of self-esteem and emotion to eating habits and disorders.
	d. use technological tools and other resources to locate, select and organize information (1.4)	• Use interactive tutorials to explore current health issues (e.g., AIDS, anorexia, bulimia, stress, steroids, depression, substance use and abuse). • Use computer software/CD-ROM to analyze diet and gain knowledge about the digestive system and nutrition.

V. Physical Activity and Lifetime Wellness

B. Responsible Personal and Social Behavior In Physical Activity Settings

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 8, all students should know that	*By the end of grade 8, all students should be able to*	
1. Seeking independence from adults, appriopriately solving conflicts and understanding the need for rules, safe practices, and ethical behavior are all a part of responsible personal and social behavior. (HP 2, 5)	a. demonstrate and show support of decisions made by game officials whether they are students, teachers or officials outside of school (2.3)	• During a team game, a designated student official awards one behavior point for every overt example of supportive ethical behavior and takes away one behavior point for every example to the contrary. Individual or team behavior points may be kept as well as the game points.
	b. describe personal and group conduct, including ethical behavior, appropriate for engaging in physical activity (2.3)	• After each class period, record in a journal or keep a log of events in which individually, or as a class, positive sportsmanship was displayed and those events in which good sportsmanship was not displayed. • Exhibit appropriate verbal and physical expressions during participation in learning activities and performances, sportsmanship, enthusiasm, satisfaction of performance, disappointment, etc. • View a video involving a game activity then discuss the ethical and unethical behaviors demonstrated by the participants and the spectators.
	c. distinguish between compliance and noncompliance of game rules (1.10; 4.3)	• Start a "Fair Play" program and give awards for good sportsmanship displayed during the semester. Include spectator as well as participant sportsmanship.
	d. work cooperatively with a group to achieve group goals in competitive as well as cooperative settings (4.6)	• Create and participate in the following situations and discuss their differences: (1) Play a game without officials or rules; then play the same game with officials and rules. (2) Play "new games" with an emphasis on cooperation; then play a very competitive game. (3) Participate in games of trust and discuss how

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
		attitudes, behavior and expectations have changed from the previous two examples.
2. Physical activities build social skills, confidence, provide challenge and serve as a vehicle for self-expression. Each individual should enjoy being physically active. (HP 4)	a. engage in activities that provide for challenge, problem solving and decision making (4.7)	
	b. recognize the influence of peer pressure by identifying positive and negative peer influences (3.1; 3.3)	• Identify incidents in sport/activity participation (in/out of class) that make you feel good and those that make you feel bad. Through class discussion, describe what you learned about creating positive experiences for yourselves and others in sport/physical activity.
3. Gaining an awareness and understanding of similarities and differences among cultures, as well as individuals, helps create inclusion of all people in the physical activity setting. (HP 2)	a. demonstrate knowledge of similarities and differences in people of various ages, gender, and abilities and the cultural significance they contribute to various games, dances and physical activities (1.10)	• Identify a country and its favorite sports. Compare the level of competition to professional sports in America. Write a paper delineating differences and similarities. • Research a game, sport and/or dance activity representing difference cultures, then lead the class in one activity, explaining the significance of the activity to that particular culture.
	b. acknowledge and support physical and performance limitations of self and others (4.1)	• Create a game in which a person who is visually impaired would be able to compete equally with one with sight. • In cooperative groups, discuss what "physically challenged" is, choose one physically challenging situation and complete a list of modifications necessary for successful participation. Present findings to the class.

V. Physical Activity and Lifetime Wellness

C. Injury Prevention/Treatment and Rehabilitation

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 8, all students should know that	*By the end of grade 8, all student should be able to*	
1. Most of the injuries associated with exercise are avoidable. Knowing proper clothing and equipment, safety guidelines and correct technique will lead to a more enjoyable and injury-free activity. (HP 4)	a. demonstrate effective injury prevention practices before, during and after activity (4.7)	• Identify and demonstrate correct warm-up conditioning and cool-down principles appropriate to activity selection. • Discuss the importance of shoe selection to activity selection (walking, football, aerobics, basketball) in preventing injuries. • Discuss the body's need for water during exercise and how it is best replaced. • During class activities, discuss and follow rules of the road in walking, jogging and cycling. • In small groups, develop an exercise program that increases flexibility.
	b. recognize incorrect techniques and methods of stretching and exercising and discuss how these can injure the body (1.10)	• As a class, compile a list of stretches and exercises that should not be done and discuss the reasons why they are inappropriate. • Explain why running to exhaustion for the end of work-out can damage the heart.
	c. discuss the exercise guidelines pertinent to local environmental conditions (e.g., humidity, pollen count, heat, cold) (1.10) d. discuss how local climate and environmental factors relate to and affect activity (e.g., dress, performance, activity selection) (1.10)	• Discuss exercise guidelines pertinent to local climate and environmental conditions, create a display to show findings and serve as a guide for the student body. (Include temperature levels, humidity readings, pollen counts, and recommended dress and activities.)

V. Physical Activity and Lifetime Wellness

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
	e. identify the myths and facts of exercise, including activity, equipment and products (3.1)	• Discuss the pros/cons of hand or wrist weights when doing aerobic exercises. • Discuss the dangers of wearing rubber suits when exercising. • As a class discuss the use of performance-enhancing drugs in physical activity. Using library resources, research one performance-enhancing drug and create negative advertisement.
2. When exercise-related injuries do occur, identifying and appropriately treating them speeds recovery and returns the individual to activity as soon as possible. (HP 4)	a. identify common exercise-related injuries (strain, sprain, blisters) and the appropriate treatment (3.1)	• Explain RICE. • Demonstrate competency in basic first aid. • Discuss exercise guidelines, preventions and treatment for exercise-induced asthma.
	b. use technological tools and other resources to locate, select and organize information (1.4)	• Using computer software, design safe workouts to reach a fitness goal. Highlight sport injury prevention and treatment.

V. Physical Activity and Lifetime Wellness

A. Personal Fitness/Wellness

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 12, all students should know that	*By the end of grade 12, all student should be able to*	
1. Healthy choices and decisions regarding sports and lifetime activities require analysis and comparison of health, skill and fitness benefits derived from a variety of activities. (HP 2)	a. make personal fitness choices by comparing and contrasting the components of health-related fitness and skill-related fitness and the benefits each offers to the development of total fitness (3.8; 4.1; 4.7)	• Make a list of activities participated in over the years. Rank order the activities in terms of personal preference, denote which activities are skill related and those which are health related. Interpret the results by describing in written form which preferences are most appropriate for lifetime wellness.
2. Assessment of current fitness levels, establishing, monitoring and adjusting fitness goals and development and implementation of a personal fitness plan to meet current and future needs is necessary for the maintenance of personal fitness. (HP 2, 4)	a. demonstrate the skill, knowledge, and desire to monitor and adjust activity levels to meet personal fitness needs. (4.5)	• Using a health-related fitness test to assess personal fitness levels, set fitness goals and develop a plan for self-improvement; continue assessment periodically to guide changes in the physical activity program (4.5)
3. To acquire fitness for life development of the desire to participate in daily fitness activities must occur. (HP 4)	a. participate regularly in health-enhancing fitness activities independent of teaching mandates (4.7) b. independently and willingly participate in games, sports, dance, outdoor pursuits and other physical activities that contribute to the attainment of personal goals and maintenance of wellness (4.7)	• Keep a journal of physical activities participated in on a daily basis. Record description of feelings when personal goals are met.
4. Basic physiological principles related to exercise enhance the development of personal fitness and should be included when designing fitness plans. (HP 1, 3, 4)	a. apply the acronym FIT (frequency, intensity, time) and the principles of overload, progression and specificity to a personal fitness plan (3.1)	• Using the principles of overload, progression and specificity, design a weight training program based on self-assessment. • Using FIT, create a chart to analyze a personal fitness plan by establishing areas of strengths and concerns in the plan.

V. Physical Activity and Lifetime Wellness

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
5. Wellness refers to the quality of life involving the interactions of the physical, intellectual, emotional, social, and vocational dimensions of the individual. (HP 1, 4)	a. identify both short-term and long-term effects of stress upon the individual (3.1) b. participate in a variety of self-selected activities that aid in stress management (4.7)	• Conduct a personal stress assessment. Based upon the results of the assessment, determine a plan for activities that will aid in stress management including at least one physical activity.
	c. determine the relationship between nutrition, exercise, and weight control by identifying nutrition and exercise as an essential element of weight control and by distinguishing between factual and fictitious ideas about weight control (3.7)	• Using computer software, perform a diet analysis and determine deficiencies. • Using a previously established exercise plan and diet analysis from computer software, create a plan of weight management.
	d. evaluate the negative aspects of chemical dependency upon the body in relationship to wellness (1.6)	• In cooperative groups discuss the relationship between drug use and adolescent suicide, homicide and other acts of violence. Establish to what degree a healthy lifestyle discourages involvement in health risk behaviors.

V. Physical Activity and Lifetime Wellness

B. Responsible Personal and Social Behavior in Physical Activity Settings

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 12, all students should know that	*By the end of grade 12, all student should be able to*	
1. Safety practices, rules and etiquette for various physical activities in both group and individual settings is essential in developing responsible personal and social behavior. (HP 4)	a. independently create a safe environment for skill practice (1.10) b. accept a responsible leadership role by modeling and encouraging others to apply appropriate etiquette in physical activity settings (4.3)	• Design an individual weight training program listing specific safety practices for each station. • In group discussion, analyzes ways individuals affect team play by identifying participation factors such as fair play, sportsmanship, etiquette and team play.
2. Problem solving and decision making are essential components of social responsibility in physical activities. Decisions regarding social relationships are made based on personal choices but may impact others. (HP 2, 4)	a. demonstrate mature personal control by acting as a neutralizer in avoiding conflict or as a mediator in settling conflict (4.7)	• Discuss common communication problems and conflicts which occur during team play. In small groups, develop strategies to solve problems and conflicts during activities. Share the strategies with the class, use during play and verify their level of helpfulness.
	b. compare and contrast, individually and collaboratively, how attitudes, actions, and personal choice can affect themselves, family members, and others (1.1)	• Identify causes of conflict in an activity setting. Brainstorm possible solutions. Using these scenarios, role-play conflict mediation skills.
3. Participation in physical activity fosters appreciation of cultural, ethic, gender, and physical diversity. Strategies for including others from diverse backgrounds and those with physical diversities should be utilized in activity selection throughout the lifespan. (HP 4)	a. develop strategies for including persons of diverse backgrounds and abilities in physical activity (3.2)	• Brainstorm factors that affect choices you make as activity patterns change over the lifecycle. Identify physical activity options available in the community. Determine if the options match needs with the community such as socioeconomic status, age, gender. Prepare a display which illustrates the findings.

V. Physical Activity and Lifetime Wellness

C. Injury Prevention/Treatment and Rehabilitation

What All Students Should Know	What All Students Should Be Able To Do	Sample Learning Activities
By the end of grade 12, all students should know that	*By the end of grade 12, all student should be able to*	
1. Exercise-related injuries can be reduced if prevention strategies such as warm-up and cool-down, proper skill technique, use of protective equipment and proper conditioning are employed. The ability to discern between myth and fact is also an important injury prevention strategy. (HP 4)	a. use proper injury prevention techniques during practice and game play (4.7) b. gain an understanding of exercise-related injuries and maladies such as sprains, strains, wounds, and exercise induced asthma (1.10)	• Develop an injury prevention program for a specific sport or activity.
2. Proper treatment for exercise-related injury aids in recovery rate for return to exercise. Following proper treatment procedures is important for individuals. Administering emergency treatment to others such as basic first aid and CPR is important. An awareness of how to activate Emergency Medicine System (EMS) is also necessary. (HP 4, 5)	a. distinguish between life-threatening and non-life-threatening injuries and when to seek medical attention (1.10) b. demonstrate competence in basic first aid and CPR (4.7)	• Given scenerios of exercise-related injuries, students will determine injury type using the following. (1) life-threatening or non-life-threatening injury (2) musculosketetal injuries such as sprain or strain (3) head and spinal injury. Determine appropriate treatment (e.g., RICE, or medical care or EMS). (Cooperative groups can be used for this activity.)
3. Rehabilitation for an exercise-related injury is paramount for an efficient recovery and return to exercise. Regaining range of motion, strength and coordination and sports-specific movement are included in the hierarchy of rehabilitation. (HP 4)	a. display an awareness of when to seek medical advice for rehabilitation and the importance of following rehabilitation protocol (1.10)	• Visit a sports medicine clinic to observe modalities used in rehabilitation and gain an awareness of requirements needed for a career in sports medicine.

SUGGESTED PRACTICES FOR TEACHING AND LEARNING HEALTH EDUCATION AND PHYSICAL EDUCATION

Effective teachers learn from their students and other teachers, evaluate their own teaching and continue learning through professional development activities. They realize that a well-written curriculum provides a "vision" for the development of healthy, active students who achieve health literacy and become physically educated.

Health education and physical education teachers will find some of their current practices listed; however, there may be new ideas and practices that will assist with reaching the "vision." These suggested practices can be achieved over time with the full support of the entire educational system.

COLLABORATING THROUGH COMPREHENSIVE SCHOOL HEALTH PROGRAMS

Because of the complexity of health and social issues facing today's youth, collaborating within the school organization and with the community will produce a more comprehensive approach for program planning and implementation. A comprehensive school health program is an organized set of policies, procedures and activities designed to protect and promote the health, safety, and well-being of students and staff.

An Advisory Council comprised of teachers, administrators, nurses, counselors, social workers, physical educators, students, parents, community health and social agency staff can provide support and leadership for the establishment of an ongoing comprehensive plan for the school and community. The eight components of a comprehensive school health program are:

1. **Physical Education** is a planned, sequential K-12 curriculum that provides cognitive content and learning experiences in a variety of activity areas including basic movement skills;physical fitness, rhythms, and dance;games;team, dual and individual sports; tumbling and gymnastics; and aquatics. Quality physical education should promote through a variety of planned physical activities, each student's optimal physical, mental, emotional, and social development, and should promote activities and sports that all students enjoy and can pursue throughout their lives. Physical education is taught by qualifed teachers who have been trained to teach the subject..

2 **Health Education** is a planned sequential K-12 curriculum that addresses the physical, mental, emotional and social dimensions of health. The curriculum is designed to motivate and assist students to maintain and improve their health, prevent disease, and reduce health-related risk behaviors. It helps students develop and demonstrate increasingly sophisticated health-related knowledge, attitudes, skills and practices. The curriculum is comprehensive and includes a variety of topics including mental and emotional health; growth and development; nutrition; personal health; tobacco, alcohol and other drugs; disease prevention; injury preven-

tion and safety; consumer, community and environmental health. Health education is taught by qualified teachers who have been well trained in content as well as in the process of teaching life skills.

4. Health Promotion for Staff is health promotion programs such as health assessments, health education, and health-related fitness activities that protect and promote the health of those on the school staff. Such programs encourage and motivate school staff to pursue a healthful lifestyle, thus promoting better health, and improved morale. This commitment may transfer into greater commitment to the health of students and create positive role modeling. Health promotion programs for staff can improve productivity, decrease absenteeism, and reduce health insurance costs.

5. Parent and Community Involvement is a dynamic partnership in which the school, parents, agencies, community groups, and businesses work collaboratively to address the health needs of children and their families. School health advisory board councils, coalitions, and broadly-based constituencies for school health can provide a means to effectively build support for school health program efforts. Schools are encouraged to actively solicit parent involvement and engage community resources and services to respond more effectively to the health-related needs of students.

6. Health Services are services designed to appraise, protect, and promote the health of students. Health services are designed to: insure access and/or referral to primary health care services; foster appropriate use of primary health care services; prevent and control communicable diseases and other health conditions; manage chronic diseases; provide emergency care for illness or injury; promote and provide optimum sanitary conditions for a safe school facility and school environment; provide education and counseling opportunities for the promotion and maintenance of individual, family, and community health. School health services are provided by qualifed professionals such as physicians, nurses, and other allied health personnel.

7. Nutrition Services are services that provide students with nutritionally balanced, appealing, and varied meals and snacks in settings that promote social interaction and relaxation. Meals and snacks take into consideration the health and nutrition needs of all students. School nutrition programs reflect the United States Dietary Guidelines for Americans and other quality criteria to achieve nutrition integrity. The school nutrition program offers an opportunity for students to experience a learning laboratory for classroom nutrition and health education, and serve as a resource for linkages with nutrition-related community services. Services are provided by qualified nutrition professionals.

8. Counseling, Psychological and Social Services are services that provide broad-based individual and group assessments, interventions, and referrals which attend to the mental, emotional, and social health of students. Organizational assessment and consultation skills of counselors, psychologists, and social workers contribute to the overall health of students and to the maintenance of a safe and healthful school environment. Services are provided by professionals such as trained/certified shcool counselors, psychologists, and social workers.

Collaborative and integrated efforts have the potential for more positive outcomes than any one group working alone. Since individual students have different needs, organized efforts amony professionals allow these needs to be met better than a single component could manage alone. (Allensworth and Kolbe, 1987)

USING NATIONAL STANDARDS

The writers of this Curriculum Framework were not able to use the National Health or National Physical Education Standards verbatim because students in Missouri will be assessed on the Show-Me standards. However, many of the ideas and concepts that are included in the National Health Education and National Physical Education Standards have been incorporated into the Show-Me Standards and this Curriculum Framework.

Curriculum developers will find it beneficial to review and use these national documents in developing local curriculum. *The Moving Into the Future-National Physical Education Standards: A Guide to Content and Assessment* document was developed by the National Association for Sport and Physical Education in 1995.

Content Standards in Physical Education:

1. Demonstrates competency in many movement forms and proficiency in a few movement forms.
2. Applies movement concepts and principles to the learning and development of motor skills.
3. Exhibits a physically active lifestyle.
4. Achieves and maintains a health enhancing level of physical fitness.
5. Demonstrates responsible personal and social behavior in physical activity settings.
6. Demonstrates understanding and respect for differences among people in physical activity settings.
7. Understands that physical activity provides opportunities for enjoyment, challenge, self-expression, and social interaction. (NASPE, 1995)

(**NOTE:** This document is available from the National Association for Sport and Physical Education, (NASPE) 1900 Association Drive, Reston, VA 22091-1599.)

The *National Health Education Standards: Achieving Health Literacy* document was developed by the Joint Committee for National Health Education Standards in 1995 with funding provided by the American Cancer Society.

Content Standards in Health Education:

1. Comprehend concepts related to health promotion and disease prevention.
2. Demonstrate the ability to access valid health information and health-promoting products and services.
3. Demonstrate the ability to practice health-enhancing behaviors and reduce health risks.
4. Analyze the influence of culture, media, technology, and other factors on health.
5. Demonstrate the ability to use interpersonal communication skills to enhance health.
6. Demonstrate the ability to use goal-setting and decision making skills to enhance health.
7. Demonstrate the ability to advocate for personal, family, and community health. (AAHE, 1995)

(**NOTE:** This document is available from the Association for the Advancement of Health Education (AAHE), 1900 R 1900 Association Drive, Reston, VA 22091-1599.)

DEVELOPING A SCOPE AND SEQUENCE

When the process of developing the scope and sequence for health education and physical education incorporates the diverse voices of the community, it is more likely that there will be community ownership and barriers to implementation will be less likely to emerge. Parents, students, community members who represent culturally diverse backgrounds, business leaders, and representatives from health organizations, as well as school personnel such as the school nurse, guidance counselor, etc. should be involved.

The curriculum is most beneficial when it begins in pre-kindergarten and extends throughout the child's schooling in an integrated, thoughtfully articulated sequence, and is planned with students' changing psychomotor, cognitive, behavioral, affective and social needs and capabilities in mind.

The scope and sequence should:

- provide opportunities for all students to develop and demonstrate knowledge, attitudes and skills related to adopting a healthy, active lifestyle
- integrate physical, mental, emotional, and social dimensions
- be geared toward motivating health maintenance and promoting wellness and not merely preventing disease or disability
- integrate categorical topics into a more comprehensive, sequential approach
- allow for planned repetition so that knowledge, attitudes and skills are developed and reinforced in a spiraled fashion over time (Meeks and Heit, 1992)

If the curriculum is to be progressive, objectives must be progressive and sequential and dependent on the characteristics, needs and interests of the learners. According to Corbin (1976), such a curriculum is vertical and is a program of prerequisites. As students meet basic objectives, they can move to new and different objectives. For example, physical development and strength development are prerequisites to learning basic gymnastic skills, and the ability to identify high fat foods is a prerequisite to planning a healthy diet.

The Suggested Scope and Sequences in Appendix B are provided as an example of how the curriculum could be organized.

CHOOSING INSTRUCTIONAL MATERIALS

Health education and physical education teachers need to look for ways to incorporate a variety of instructional materials including technology into their teaching. Using a wide range of instructional materials for health education and physical education can improve cognition, develop affective behavior, and illustrate proper techniques and strategies for skill performance and participation.

Many types of instructional media and resources are available. In addition to the conventional printed materials, resources include films, videos, computer software, laser discs, CD/ROM, and large screen projections of televised or videotaped images. The following are examples of how instructional technology can be used:

- Heart monitors can be used to provide students with feedback regarding their heart rate while engaged in cardiovascular activities.
- Camcorders and video cameras can be used to capture students' performances for skill or strategy analysis.
- Computers can aid the teacher in the production of task cards or skill cards and can also be used to provide information and instructional modules to individuals or groups.
- Videocassette players connected to laser disc players and other peripheral devices can capture students' interest through multi-media presentations.
- Computer software programs can lead students through tutorials in various wellness topics, offering both instruction and assessment procedures.
- Bicycle ergometers, treadmills, rowing machines, step machines and recumbent bikes are examples of technology oriented equipment. Accompanying software packages further enhance the benefits of using such equipment.

Instructional materials should be selected on the basis of how they can enhance and supplement the health education and physical education curriculum. Instructional materials should be selected on the basis of how they can enhance and supplement the health education and physical education curriculum. Insructional materials should:

- be congruent with established curricular goals
- provide for a variety of teaching and learning styles
- encourage parental involvement
- encourage and provide for assessment

Regardless of the type of instructional material used, they should be reviewed by teachers and interest groups prior to use. To assure age and maturity appropriateness, the materials should be piloted with students. The most effective instructional materials are often developed by classroom teachers. Of utmost importance is that instructional materials need to be current and relevant if they are going to have an impact on learning.

SELECTING APPROPRIATE TEACHING TECHNIQUES

Effective teachers use a variety of teaching techniques in order to meet the needs of the increasingly diverse student population. While lectures and direct teaching are required in some instances, teachers can utilize the following techniques alone or in combination to address a variety of content and learner needs and make the student more actively involved in their learning experience:

- role playing
- class discussion
- simulation
- brainstorming
- case study
- family activity
- community activity
- TV game/talk show
- debate
- special report
- laboratory
- cooperative learning
- games
- action plans
- small-group work
- situation analysis
- field trip
- trial by jury
- interview
- health/wellness fair
- question and answer session
- guest speaker

- visual aid discussion
- student produced commercial, PSA or song
- teacher demonstration followed by student participation

Suggested teaching aids include:

- textbooks
- bulletin boards
- weight scales
- newspapers
- exhibits
- writing pads
- graphs
- sphygmomanometers
- photographs
- computer software
- magazines
- pamphlets
- mirrors
- collages
- slides
- diagrams
- stethoscopes
- workbooks
- journals
- exercise logs
- specimens
- charts
- posters
- television
- models
- skinfolds calipers
- chalkboards
- videos

USING DEVELOPMENTALLY AND CULTURALLY APPROPRIATE LEARNING ACTIVITIES

All students need to feel successful and to see progress in their own learning of skills and attitudes in order to adopt a healthy, active lifestyle. Teachers need to believe that all children can learn, and create supportive environments by providing a variety of experiences, equipment and materials. Students deserve learning opportunities geared to their individual capabilities and needs based on:

- age
- fitness levels
- body sizes and shapes
- first language
- gifted and talented
- limiting physical condition or disability
- level of motor skills
- physical and emotional maturation levels
- different cultures
- genetic predisposition
- learning style

Students need to be actively involved in the learning tasks. They should to be encouraged to explore situations from a variety of perspectives and through many types of student-learning experiences. Learning tasks should be made meaningful to them. Positive feedback is one of the most motivational ways that student learning can be reinforced. This positive feedback should be specific, and may come from the teacher, peers, or as the result of comparing their current performance with a past performance. Praise and encouragement are additional positive teacher behaviors that help support learning.

A recent approach to addressing the diversity of student learning is Howard Gardner's (1993) Theory of Multiple Intelligences. Gardner's theory suggests that learners learn in at least seven different ways and that any individual will necessarily be most succesful in one or several "intelligences" (Verbal,/Linguistic, Logical/Mathematical, Visual/Spatial, Kinesthetic, Musical, Interpersonal, and Intrapersonal).

Gardner suggests that educators can build on students strengths via their "intelligences" as a means of assisting students to achieve high standards. The following are some brief descriptions of the intelligences and example activities drawing upon them:

Multiple Intelligences At Work In the Curriculum Frameworks

Type of Intelligence	*Student Preference*	*Example Activities*
Verbal/Linguistic	*Likes reading, speaking, and writing, ex amining the evolution of language, playing with words in puns and puzzles.*	*Students read health or medical journals and identify the point of view of the writer.*
Logical/ mathematical	*Enjoys solving problems, doing calculations, experiments, and devising questions.*	*Students collect and analyze statistical data on health issues or personal performance.*
Visual/spatial	*Communicates and learns visually; chooses to make illustrations, maps, patterns, designs, and models.*	*Students construct scale models of the heart, ear, etc.*
Kinesthetic	*Likes to exercise, move around the classroom, shows good coordination.*	*Students collaborate to choreograph and perform dances and rythmical movements.*
Musical	*Enjoys singing and playing instruments, listening to music, rhythmic games, is interested in ideas about music.*	*Students explore how music can become a stress management strategy.*
Interpersonal	*Prefers to work in groups, is a good mediator, senses other people's emotions.*	*Students work collaboratively on teams to compete in games.*
Intrapersonal	*Likes to work alone, sets personal goals, thinks deeply, may be quiet and introspective.*	*Students keep journals of reflections on personal experiences and feelings.*

MODIFYING ACTIVITIES AND TEACHING METHODS

It is important for students to experience enjoyment and be successful in health education and physical education classes. Modifying activities and teaching methods will be necessary in some situations, especially for learners with special needs, but with appropriate support and a variety of instructional strategies, all students can succeed. Adaptations do not always involve technology; simple modifications such as changing a seating arrangement or adjusting the height of a desk or chalkboard can improve student participation and learning.

In a health class:

- learners might create a three-dimensional poster about preventing smoking so the blind child can participate;

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- written materials can be available on audiotape for visually impaired students or at different reading levels for students with varying reading abilities;
- hearing impaired students can learn signs for parts of the human body, etc.

In a physical education class: The following questions and ideas (Block, 1994) might be helpful for curricular adaptations when modifying group games and sports:

1. Can you vary the purpose/goal of the game? (For example, some students play to learn complex strategies, others play to work on simple motor skills.)
2. Can you vary the number of players? (Play small games such as 2 v. 2 basketball.)
3. Can you vary movement requirements? Some students can walk while others can run, some can hit a ball off a tee while others hit a pitched ball; more skilled students may be forced to use more complex movements while less-skilled students use simpler movements.
4. Can you vary the field of play? (Set up special zones for students with less mobility: make the field narrower or wider as needed; shorten the distance for students with movement patterns.)
5. Can you vary objects used? (Some students use lighter bats or larger bats; some use a lower net or basket.)
6. Can you vary the level of organization? (Vary typical organizational patterns; vary where certain students stand; vary the level of structure for certain students.)
7. Can you vary the limits/expectations? (Vary the number of turns each student receives; vary the rules regarding how far a student can run, hit, etc.; vary how you will enforce certain rules for certain players.)

The following questions and ideas (Block, 1994) might be helpful in curricular adaptations to accommodate individuals with specific limitations:

1. Does the student have limited strength, power or endurance?
   a. Lower targets
   b. Reduce distance/playing field
   c. Allow student to sit or lie down while playing
   d. Use partially deflated balls or suspended balls
   e. Decrease activity time/increase rest time
   f. Reduce speed of game/increase distance for students without disabilities

2. Does the student have limited balance?
   a. Lower center of gravity
   b. Keep as much of body in contact with the surface as possible
   c. Widen base of support
   d. Increase width of beams to be walked in gymnastics unit
   e. Extend arms for balance
   f. Use carpeted rather than slick surfaces
   g. Teach students how to fall
   h. Provide a bar to assist with stability
   i. Teach students to use eyes optimally
   j. Determine whether balance problems are related to health problems

3. Does the student have limited coordination and accuracy?
    a. For catching and striking activities, use larger, lighter, softer balls
    b. Decrease distance ball must travel and reduce speed at which it is thrown
    c. For throwing activities, use small balls
    d. In striking and kicking, use stationary ball before trying one that is moving
    e. Increase the surface area of the striking implement
    f. Use a backstop
    g. Increase size of target
    h. In bowling-type games, use lighter, less stable pins.
    i. Concentrate on safety.

Teaching methods might be adapted to meet the individual student's needs such as:

- using a "buddy" system that pairs disabled students with non-disabled students
- using peer tutoring
- using task cards or individualized learning packets
- using circuit or station set-ups
- using contracts or independent student programs

DEVELOPING INTERDISCIPLINARY UNITS

Effective integration can enhance student learning if the rigor of the content is maintained. The typical approach for integrating instruction is multi-disciplinary in which several disciplines teach about issues in a way that is relevant to the discipline. This approach is usually not coordinated with other disciplines and may result in fragmentation.

Jacobs (1989) has suggested that interdisciplinary curriculum be used to overcome fragmentation and to improve relevance and the growth of knowledge. Jacobs defines interdisciplinary as "a knowledge view and curriculum approach that consciously applies methodology and language from more than one discipline to examine a central theme, issue, problem, topic or experience."

Jacobs offers the following four-step process for organizing an interdisciplinary unit:

1. Select an organizing center or central theme for the unit.
2. Brainstorm associations which may be topics, people, questions, ideas, and materials related to the central theme.
3. Establish guiding questions to organize the associations in a scope and sequence for the unit.
4. Write activities for implementing the guiding questions. The activities should be designed using a model of cognition, such as Bloom's Taxonomy.

INCLUDING HEALTH-RELATED CAREERS

It is very important for any curriculum to include information about careers. It certainly should not be over-looked in this framework since health care and fitness are the nation's fastest growing industries and offer a wide variety of career opportunities. The health care industry in Missouri employs more than 132,000 individuals in hospitals alone. Thousands more are employed by government, private clinics and laboratories, schools corporations and research institutions. The trend is projected to continue well into the twenty-first century.

As students learn the principles of health and fitness in their own lives, they will become aware of the career options available in these fields. It is important that students be given the information and opportunity to explore careers related to health and fitness. Career information related to each of the strands in this framework should be incorporated K-12. As students explore careers related to health and fitness they should analyze the impact these professionals have on their own lives and on the general populace. Such career exploration will help students know where to turn for assistance with health and fitness concerns and consider a greater range of options for their own career future.

INCORPORATING ELEMENTS OF CONSTRUCTIVIST TEACHING AND LEARNING

The premise of constructivism is "that children can construct their own knowledge and values as a result of interactions with the physical and social world. Because their thoughts are still closely tied to action, they require a physically and mentally active learning environment. Children have an intrinsic desire to make sense of the world. What they genuinely need to know and are genuinely interested in knowing helps them to learn. Developmental domains are interactive and interrelated, each influencing the other. " (Project Construct National Center) Principles of constructivism include:

- Good curriculum focuses on the process of knowledge construction, addresses all learning/development domains, avoids emphasizing factual knowledge and discrete, isolated skills, leads to activities that facilitate the construction of knowledge, is organized around "big" ideas.
- Good instruction allows students to be mentally engaged, requires students to make connections and create new understandings, is responsive to students' questions, corresponds to students' natural activities, allows the processes of learning to be modeled and coached.
- Good assessment is integrated and congruent with curriculum and instruction and that the assessment is part of-not separate from-curriculum and instruction, focuses on processes and products from all domains, is based on standards and expectations that are made explicit and utilizes performance-based information that is collected over time from a wide range of experiences and activities. (Schattgen,1994)

Current research on learning supports the belief that learners must be at the center of their own learning; that is, learners must be actively engaged in the process of exploring, analyzing and understanding the world they are attempting to learn about. A teacher's role is to create a rich environment and frequent opportunities for learning to occur. Supporting this view of learning are several important characteristics of learners and learning:

- *Learning starts with the learner's own ideas and theories about the world.*
- *Individuals build new knowledge upon previous personal experiences and understanding.*
- *Each individual brings different interests, skill, attention, attitudes, and knowledge to a learning experience.*
- *Individuals learn when they are active and engaged in firsthand experiences.*
- *Individuals learn to view learning as the on-going process of extending and fine tuning their ideas.*

- *Learners must recognize the value of language and social interaction as important tools of learning.*
- *Learners need clear expectations.*

MAXIMIZING INSTRUCTIONAL TIME

Establishing efficient routines and management procedures to maximize instructional time results in students experiencing and planning for healthy, active living. Although there are contextual differences between teaching in a gymnasium and teaching in a classroom, these procedures are equally important in physical education and health education.

Good classroom management skills help teachers prevent discipline problems and conserve the greatest amount of time for student learning. Teachers who are good managers use the early weeks of the school year to teach their students particular routines for getting work done efficiently and quickly in a safe environment. For example, in physical education class, roll can be taken as individuals sign in and check their personal folders for their individualized first learning task. In health education, ground rules can be set so all students feel safe discussing even the most sensitive issues.

Teachers will be most successful when they directly teach students their managerial routines. They can enlist student assistance by helping them take some responsibility for self-management, and carefully reinforcing students for appropriate compliance with the managerial procedures designed to reduce management time in each class session. The greatest amount of class time can then be devoted to learning tasks that develop skills for active, healthy living. (ASCD, 1993)

ONGOING STAFF DEVELOPMENT

The dynamic nature of health education and physical education requires ongoing staff development based on proven models. Five models for staff development have been identified: (1) training with coaching; (2) observation and assessment; (3) inquiry: (4) individually guided staff development; and (5) curriculum program development.

The most dominant model of staff development in health education and physical education is the training model. In this model teachers participate in singular and group instruction experiences (aimed at improving content knowledge and pedagogical skills of teachers). It is well documented, however, that workshops are not effective unless they are followed by continuous support, access to resources and technical assistance, expectations from administrators, and ongoing changes for dialogue and networking among teachers.

Peer coaching and other site-based strategies provide excellent vehicles for staff improvement and revitalization. Health educators and physical educators will gain expertise from peer coaches and mentors who are recognized as master teachers from their own as well as other disciplines.

Adults are motivated to learn when they are valued as individuals and can have control over what and how they learn. Teachers, like students, indicate that they learn best by doing, by being immersed in the learning activity. They expect experiences to be relevant to their values and beliefs and for their staff development experiences to include activities that can be used immediately. With ongoing support, the opportunity for input, and quality staff development experiences, teachers will improve their efforts to enhance student learning. (ASCD, 1993)

ASSESSING STUDENT PERFORMANCE

The emphasis on accountability in education has made evaluation increasingly important. While the current emphasis is upon student mastery of life skills, there is still a need for students to master knowledge because health knowledge is essential for creating informed behavior change. The goal of quality instruction in health education and physical education is that students will graduate with the knowledge, skills, attitudes, and motivation to maintain a healthy and physically active lifestyle.

Attention should be given to linking assessment to program goals and curricular objectives across the cognitive, affective, and psychomotor domains.

Assessment in the Cognitive Domain

Traditionally, assessment in the cognitive domain has centered on norm-referenced tests consisting of multiple-choice, alternate choice, matching, essay or fill-in the blank types of questions. Alternative forms of assessment offer a promise of assessment which is more "real-life" oriented and targeted at more complex cognitive processes. For example, a portfolio for a consumer health unit might include a critical analysis of personal use of over the counter drugs, talking over a health concern with one's personal physician and writing a letter to the manufacturer expressing concerns about a purchase. (ASCD 1993)

Assessment in the Affective Domain

Many teachers rely on informal subjective observations of student behavior to determine levels of a wide range of characteristics such as effort, attitude and sportsmanship. Such observations can be helpful if the teacher explicitly defines the behavior(s) to be observed and what constitutes acceptable behavior; provides ample opportunity to observe all students under a variety of conditions; and records observations on a valid observation instrument. (ASCD, 1993)

Other techniques for gathering feedback about students' beliefs, feelings and behaviors are::

Behavior Contracts that require the students to report data about their behavior and changes or improvements in their health behavior. Students can contract with the teacher to obtain a certain number of points that determine a grade based on showing progress or completion of the life skill they have identified.

Likert Scales which are used to measure beliefs and attitudes in which students react to statements with a response of strongly agree, agree, neutral, disagree and strongly disagree to a given statement or concept.

Semantic Differential which is used to measure beliefs and attitudes about a specific issue such as smoking. Students are asked to circle a letter from A-E to indicate their preference on a continuum. (Meeks and Heit, 1992)

Assessment in the Psychomotor Domain

Along with the more traditional psychomotor measures of product (behavioral outcome) such as skills tests for specific sports, e.g. tennis, softball, etc. and physical fitness tests, e.g., Fitnessgram and Physical Best, are an array of teacher developed observational instruments such as rating scales, checklists and profiles. In addition to observational instruments, goal setting and problem solving devices provide an excellent transition to the more complex alternative assessment exemplified by portfolios, work samples and demonstrations. (ASCD, 1993)

There are many types of assessment techniques to measure student learning in physical education and health education. No single technique will work for all of the content or for all students. Assessment research recommends that a combination of techniques be used. Assessments may be conducted by a teacher, student or peers.

Types of assessments useful in physical education and health education classes include:

* Embedded Assessment
* Interviews
* Self-Assessment
* Student Notebooks
* Peer Assessment
* Projects
* Teacher Observation
* Conferencing
* Student Journals
* Checklists
* Products
* Portfolio Assessment

General Recommendations about Assessment

1. Assessment should be constructive and provide students, teachers, administrators, and families with information for quality improvement.
2. Assessment should reflect student progress as well as achievement.
3. Each student should understand the assessment process and participate in determining the procedures and criteria to be used.
4. A variety of assessment methods should be considered and used.
5. Assessment should be on-going and an integral, continuous component of the learning process.
6. Assessment should be appropriate for the student, provide coverage of necessary knowledge and skills.
7. There should be direct correlation between the curriculum instruction and assessment.
8. Assessment should enhance learning, not merely document it.

GLOSSARY OF SELECTED FRAMEWORK TERMS

Abstinence: choosing not to engage in a practice or activity.

Acquired Immunodeficiency Syndrome (AIDS): a disorder of the human immune system in a person infected with HIV, characterized by severe breakdown of the immune system that leaves a person very susceptible to opportunistic infections.

Adapted Physical Education: a diversified program of physical education having the same goals and objectives as regular physical education, but modified when necessary to meet the unique needs of each individual.

Aerobic Exercise: exercises that require oxygen to produce the necessary energy to carry out the activity.

Agility: the ability of the body to change position rapidly and accurately while moving in space.

Anabolic Steroids: synthetic derivatives of the male hormone testosterone.

Anaerobic Exercise: exercise that does not require oxygem to produce the necessary energy to carry out the activity..

Anorexia Nervosa: an eating disorder in which a person is preoccupied with being excessively thin,

Asthma: an allergic disease of the lungs manifest by constrictions of the small air passages called bronchioles.

Bacteria: singled celled microorganisms that can produce illness.

Balance: the ability to assume and maintain a state of equilibrium while remaining stationery or moving.

Blood-Alcohol Concentration: (BAC): the ratio of alcohol in a person's blood to the person's total amount of blood; BAC is expressed as a percent.

Bloodborne Pathogens: pathogenic microorganisms that are present in human blood and can cause disease.

Body Awareness: "what" the body can perform; the shapes it can make, and how it can balance, and the transfer of weight to different body parts.

Body composition: the make-up of the body in terms of the amount of lean mass (muscle, bone, needed tissues, and organs) relative to fat mass.

Bulimia: an eating disorder in which a person has uncontrollable urges to eat excessively and then to rid the body of the excess calories.

Calcium: a mineral that is needed for building bones and teeth and in maintaining bone strength.

Calorie: a measure that indicates the amount of energy obtained from a food.

Cancer: a group of diseases in which there is uncontrolled multiplication of abnormal cells in the body.

Carbohydrates: nutrients such as starches and sugars that provide energy to the body.

Cardiopulmonary Resuscitation (CPR): an emergency procedure that is used to revive a person whose heart has stopped beating.

Cardiovascular Disease: a group of diseases of the heart and blood vessels.

Cardiovascular Endurance: the ability to do activities that require oxygen for an extended period of time.

Cardiovascular System: a body system that consists of the heart, blood vessels, and blood.

Centers for Disease Control and Prevention (CDC): federal agency within the Public Health Service responsible for tracking disease incidence and trends, coordinating disease control efforts with other nations, taking action in response to outbreaks, epidemics and natural disasters, and working with states and communities in developing and operating disease control programs.

Cholesterol: a fat-like substance made by the body and found in many foods.

Communicable Disease: illness caused by pathogens that enter the body through direct or indirect contact.

Complete Proteins: proteins that contain all the essential amino acids.

Complex Carbohydrates: carbohydrates that have a more complex chemical structure and provide a long-lasting source of energy.

Conflict Resolution Skills: skills a person can use to resolve disagreement in a healthful, safe, legal, respectful, and nonviolent ways.

Consumer Health: the area of health that focuses on choosing sources of health-related information and products and services, analyzing advertising, recognizing and reporting quackery, spending money and time wisely.

Cool-Down: (sometimes called a warm-down), a 5-15 minute period of low intensity exercise that immediately follows the primary conditioning period.

Coordination: ability to use two or more body parts at the same time to do a task.

Decision-Making (Pro-active Style): a decision-making style in which you examine the decisions to be made, identify and evaluate actions that can be taken, select an action, and assume responsibility for the consequence.

Decision-Making (Reactive Style): a decision-making style in which a person allows others to make decisions for him/her.

Dental Health : the care of the teeth and gums that includes frequent brushing and flossing, reduction of cavity-promoting foods, avoidance of tobacco, protecting the teeth from injury, regular dental check-ups, and cleaning of the teeth by a dental hygienist.

Diabetes: a disease in which the body is unable to process the sugar in foods in normal ways.

Dietary Guidelines for Americans: recommendations for diet choices for healthy Americans two years of age or older.

Digestive System: a body system that breaks down food so that nutrients can be absorbed by the cells in the body.

Diversity: the quality of being different or varied.

Drug: a substance that is introduced into the body, excluding food, that alters the function of the body.

Drug Abuse: the use of drugs that results in impairment of a user's ability to function normally or that is harmful to the user or others.

Duration of Exercise: the amount of time involved in performing the primary workout.

Eating Disorder: food-related dysfunction in which a person changes eating habits in a way that is harmful to the mind or body.

Efficient Movement: the skillful performance of tasks which permits desired results to be obtained with the least strain and a minimal expenditure of energy.

Environmental Protection Agency (EPA): a federal agency that is responsible for alleviating and controlling environmental pollution.

Environmental Health: the area of health that focuses on showing concern about environmental issues, keeping the air clean, keeping the water, clean, keeping the indoor environment free of pollution, keeping noise at a healthful level, protecting oneself from radiation, disposing of solid wastes properly, recycling, being aware of the effects of overcrowding, and cooperating with environmental protection agencies.

Enzyme: a chemical that speeds up a chemical reaction.

Essential Amino Acids: eight amino acids that the body does not produce.

Exercise Prescription: the correct dosage of exercise to effectively promote physical fitness. Exercise prescriptions should be tailored to meet the needs of the individual and include fitness goals, mode of exercise, a warm-up, a primary conditioning period and a cool-down.

Fats: nutrients that are a source of energy and are essential for making certain vitamins available to the body.

Federal Trade Commission (FTC): an independent agency that monitors the advertising of foods, drugs, cosmetics, devices, and advertising of foods, drugs, cosmetics, devices, and advertising that appears on television.

Fine-Motor Coordination: ability to perform efficiently small movements such as those required for playing jacks, juggling, etc.

First Aid: the immediate and temporary care given to a person who has been injured or suddenly becomes ill.

Fitness: the degree to which the total organism is able to meet the physical, intellectual and emotional demands for everyday living as well as cope with emergencies.

Flexibility: the ability to move joints in the body through its full range of motion.

Food and Drug Administration (FDA): a federal agency within the Department of Health and Human Services that monitors the safety and effectiveness of medical devices and new drugs and the safety and purity of cosmetics and foods.

Food Guide Pyramid: a food-group guide that recommends daily guidelines to ensure a balanced diet.

Frequency of Exercise: the number of times per week that one intends to exercise.

Fundamental Motor Skills: locomotor, non-locomotor and manipulative skills that provide the foundation for skill development.

Fungi: single-celled or multi-cellular plant-like organisms, such as yeast and molds, that are capable of causing disease to the skin, mucous membranes, and lungs.

Genes: special structures that transmit hereditary characteristics.

Glaucoma: a disease of the eyes marked by increased pressure within the eye-ball that can ultimately damage the optic nerve.

Glycogen: a temporary reserve supply of energy in the form of sugar and is stored in the liver and muscles.

Gonorrhea: a sexually transmitted disease caused by the bacterium Neisseria gonorrhea which infects the linings of the genital and urinary tracts of males and females.

Gross-Motor Coordination: movement and coordination of the large muscles of the body, mostly through locomotor activities. Gross-motor coordination develops prior to fine-motor coordination.

Hazardous Waste: harmful substances that are difficult to discard safely.

Health: the quality of life that includes physical, mental-emotional, and family-social health.

Health Behavior Contract: a plan that is written to develop the habit of following a specific life skill.

Health Behavior Inventory: a personal assessment tool that contains a list of actions to which an individual responds.

Health Knowledge: consists of information that is needed to develop health literacy, maintain and improve health, prevent disease, and reduce health-related risk behaviors.

Health Literacy: competency in critical thinking and problem solving, responsible and productive citizenship, self-directed learning, and effective communication. (Joint Health Education Standards Committee, 1994).

Health Promotion: the informing and motivating of individuals to become health literate, maintain and improve health, prevent disease, and reduce health-related risk behaviors.

Health-Related Fitness: those aspects of physiological function that offer protection from diseases resulting from sedentary lifestyle. It can be improved or maintained through regular physical activity.

Health Status: the sum total of the positive and negative influences of the level of health knowledge a person has, the behaviors a person chooses, the situations in which a person engages, the decisions a person makes, the resistance skills a person has, the protective factors a person possesses, the degree to which a person is resilient, and the degree of health literacy a person has achieved.

Healthful Behavior: action that promotes health; prevent illness, injury and premature death; and improves the quality of the environment.

Heart Rate: the number of times that the heart beats each minute forcing blood into the arteries.

Heat Emergencies: physical conditions that result when a person is exposed to higher than normal temperatures for varying periods of time.

Heimlich Maneuver: a technique that makes use of abdominal thrusts to dislodge an object in the air passage of a conscious person who is choking.

Hormones: groups of chemicals, each of which is released into the bloodstream by a particular gland or tissue to have an affect elsewhere in the body.

Human Immunodeficiency Virus (HIV): the pathogen that destroys the body's immune system allowing the development of AIDS.

Hypokinetic Diseases: diseases or conditions related to or caused by a lack of regular physical activity.

Immune System: the body system that fights disease.

Immunization: a vaccine that provides immunity to a certain infectious disease.

Injury Prevention and Safety: the area of health that focuses on following safety rules in the home, school, and community; following safety guidelines for different weather conditions and natural disasters; being able to get help for emergency situations; being skilled in basic first aid procedures; reducing the risk of violence; protecting oneself from those who are dangerous; and staying safe while riding in a car and when enjoying exercise.

Intensity of Exercise: the amount of physiological stress or overload placed on the body during exercise.

Isokinetic Exercise: exercise in which a weight is moved through a full range of motion.

Isometric Exercise: exercise in which a muscle is tightened for about five to six seconds and there is no body movement.

Isotonic Exercise: exercise in which there is a muscle contraction and a movement of body parts.

Lead-Up Games: games that utilize basic skills and strategies related to specific sports activities.

Lifetime Sports: sports activities that can be continued as people grow older.

Local Health Department: the official agency that has responsibility for the health of people residing within a community.

Locomotor Movements: moving the total body to get from one place to another using a walk, fun, hop, jump, leap, skip, gallop, slide, or some combination of these.

Low Fat: a label for a product that contains 3 grams or less per serving.

Low Organized Games: games which have few and simple rules and which require little or no equipment to play.

Mammogram: a low-dose X-ray used to detect breast cancer.

Manipulative Skill: a movement done to or with objects such as throwing a bean bag, striking a soccer ball, or catching a Frisbee.

Maximum Heart Rate (MHR): a heart rate that is calculated by subtracting your age from 220.

Medicine: a drug that is used to treat, prevent or diagnose illness.

Mental-Emotional Health: the area of health that focuses on gaining health knowledge and practicing life kills, making responsible decisions, using resistance skills when appropriate, choosing behaviors to promote a healthy mind, developing positive self-esteem, communicating with others in healthful ways, expressing feelings, and coping with stress in healthful ways.

Minerals: inorganic substances needed by the body in small amounts.

Motor Skills: a broad category representing reasonably complex movement patterns which have been learned.

Movement Concepts Skills: helps children develop an increased awareness and understanding of the body as a vehicle for movement and for acquisition of a movement vocabulary that includes body awareness, space awareness, qualities of movements and relationships.

Muscle Endurance: the ability to exert force over an extended period of time and to resist fatigue.

Muscular Strength: the ability of muscles to exert force.

Muscular System: a body system in which there are three types of muscles-skeletal, smooth and cardiac.

Narcotics: drugs that depress the central nervous system and inhibit the perception of pain.

Nervous System: a body system composed of a network of nerve cells that carry messages to the brain and spinal cord to all parts of the body.

Noncommunicable Disease: illness not caused by a pathogen.

Non-locomotor Movement: moving the body or its parts without traveling as a unit through space, e.g., bending, twisting, pushing, etc.

Nutrients: chemical substances in foods that furnish body fuel for energy, provide materials needed for building and maintenance of body tissues, and/or supply substances that function in the regulation of body processes.

Nutrition Education: instruction that focuses on planning a healthful diet and choosing foods from The Food Guide Pyramid, adhering to dietary guidelines, reading food labels, making healthful food selections to reduce the risk of disease, making healthful selections when dining out, considering food safety, maintaining desirable weight, eating for healthful reasons, and recognizing eating disorders.

Obesity: individuals with a high percentage of body fat, usually at least 30 % above recommended body weight.

Overload Principle: a basic principle of physical conditioning. The overload principle states that in order to improve physical fitness, the body or specific muscles must be stressed. For example, for a skeletal muscle to increase in strength, the muscle must work against a heavier load than normal.

Over the Counter Drug (OTC): a drug that is approved for legal purchase and use without a prescription from a doctor.

Overtraining: failure to get enough rest between exercise training sessions. Overtraining may lead to chronic fatigue and/or injuries.

Oxidation: the breakdowns of alcohol by enzymes in the liver, converting alcohol into carbon dioxide and water at the rate of about half an ounce of alcohol per hour.

Pap Smear: a test to detect abnormal changes in the cells of the cervix and thus to prevent the development of cervical cancer.

Perceptual-Motor Skills: skills that indicate effective execution of movements dependent upon the establishment and refinement of sensory processes-(kinesthetic, visual, auditory, or tactile) and motor activity. Perceptual motor skills depend upon the reception, interpretation, and response to either internal or external stimuli.

Physical Fitness: general ability of an individual to meet the demands of daily life safely and effectively without being overly fatigued, and still have energy left for leisure and recreational activities.

Power: ability to use muscular strength to do an activity, to transfer energy explosively into force.

Prescription: a very precise order from an appropriate health professional to a pharmacist to dispense a certain drug product to a patient.

Principle of Progression: a principle of training which dictates that overload should be increased gradually during the course of a physical fitness program.

Principle of Recuperation: the principle of recuperation that the body requires recovery periods between exercise training sessions in order to adapt to the exercise stress. Therefore, a period of rest is essential to achieve maximal benefit from exercise.

Principle of Specificity: the principle that the exercise training effect is specific to those muscles involved in the activity.

Psychomotor Development: area of learning involving the attainment of movement skills and competencies needed for a lifetime of activity.

Puberty: the time of sexual development when males and females become physically capable of reproduction.

Quack: a person who markets inaccurate health information, unreliable health care, or useless health products.

Quackery: a consumer fraud that involves the practice of promoting and/or selling useless products and services.

Quality of Movement: "how" the body can move, relates closely to mechanical principles used to move efficiently, i.e., time/speed, force, flow.

Reaction Time: the length of time you require to move after you have heard a signal.

Recycling: the process of reforming or breaking down waste products to their basic components so they can be used again.

Relationships: in movement concepts, this refers to with whom and/or what the body relates, the position of the performer to the apparatus or other performers, i.e., above-below, etc.

Resiliency: the ability to prevent or to recover, bounce back, and learn from misfortune, change, or pressure.

Resistance Skills: skills that are used when a person wants to say NO to an action and/or leave a situation that threatens health, threatens safety, breaks laws, results in lack of respect for self and others, disobeys guidelines set by responsible adults, or detracts from character and moral values.

Respiratory System: the body system that consists of the nasal cavity, the pharynx, larynx, trachea, bronchi, and the lungs.

R.I.C.E: an acronym representing a treatment protocol for exercise-related injuries. It stands for: R= Rest, I=Ice, C=Compression, E=Elevation.

Risk Behaviors: voluntary actions that threaten self-esteem; harm health; and increase the likelihood of illness, injury, and premature death.

Risk Factors: ways that a person might behave and characteristics of the environment in which a person lives that threaten health, safety, and/or well being.

Sanitation: the protection of health and prevention of disease by means of freeing the environment from filth and infectious material.

Saturated Fats: fats that contain a high proportion of saturated fatty acids.

Secondhand Smoke: a mixture of the smoke given off by the burning end of a cigarette, pipe, or cigar and the smoke exhaled from the lungs of smokers.

Self-concept: the psychological image or perception which one has of himself/herself as a person, it is one's self appraisal of personal worth and value.

Sexually Transmitted Diseases (STDs): diseases caused by pathogens that are transmitted from an infected person to an uninfected person during intimate sexual contact.

Skill-related Physical Fitness: physical qualities that enable a person to perform in sports activities.

Space Awareness: "where" the body can move, relates to moving in different directions and at different levels, i.e., general or personal space, direction, level, pathways, planes.

Speed: the ability of the body to perform movement in a short period of time.

Stress: the response of the body to the demands of daily living.

Stressor: a demand that causes changes in the body, a factor that produces stress.

Stress Management Skills: techniques that can be used to cope with the harmful effects produced by stress.

Target Heart Rate (THR): between 60-90 percent of the difference between resting heart rate and maximum heart rate.

Ten Percent Rule: a rule of training that states that the training intensity or duration of exercise should not be increased more than 10% per week.

Testicular self-examination: observation and palpation of the testicles to locate any mass or tenderness.

Time Management Plan: a plan that indicates how time will be spent on daily activities and leisure.

United States Department of Agriculture (USDA): a federal agency that enforces standards for ensuring that food is processed safely and also over-sees the distribution of food information to the public.

Universal Distress Signal: demonstrated by a person clutching at the throat with one or two hands.

Universal Precautions: the steps taken to prevent the spread of disease by treating all human blood and certain body fluids as if they are known to be infectious for HIV, HBV and other bloodborne pathogens.

Violence: the threatened or actual use of physical force to injure, damage, or destroy oneself, others, or property.
Virus: the smallest known pathogen.
Vitamins: organic substances needed in very small amount to facilitate chemical reactions in the body.

Warm-Up: a brief (5-15) period of exercise that precedes the workout. The purpose of the warm-up is to elevate muscle temperature and increase blood flow to those muscles that will be engaged in the workout.
Water: a nutrient that helps make up blood, helps the process of digestion and removal of body wastes, and regulates body temperature.
Weight Control: the establishment or maintenance of desirable body weight by balancing food intake and caloric expenditure. For overweight individuals, the former may involve dieting and the latter a vigorous exercise program.
Wellness: a quality of life that includes physical, mental-emotional, and family-social health.
Weight Training: A conditioning program that uses weights or other resistance equipment to help increase muscular strength, endurance, and power as well as toning the body.

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Journal of Health Education
Journal for Physical Education, Recreation and Dance (JOPERD)
Strategies: A Journal for Sport and Physical Education
Research Quarterly for Exercise and Sport
Available from: American Alliance for Health, Physical Education, Recreation and Dance, 1900 Association Drive, Reston, VA 22091 (Phone) 703-476-3404

Journal of School Health (JOSH)
Available from: American School Health Assosication, P.O. Box 708, Kent, OH 44240 (Phone) 216-678-1601

Missouri Journal of Health, Physical Education, Recreation and Dance
Available from: Missouri Association for Health, Physical Education, Recreation and Dance, 15 East Jackson Rd., Webster Groves, MO 63119

Physical Fitness Tests

The Prudential *Fitnessgram*
Available from: Cooper Institute for Aerobics Research 12330 Preston Rd., Dallas, TX 75230 (Phone) 1-800-635-7050

The President's Challenge
Available from: President's Council on Physical Fitness and Sports. Poplars Research Center, 400 E. 7th St. Bloomington, IN 47405. (Phone) 1-800-258-8146

APPENDIX A

EXAMPLES OF QUALITY STUDENT WORK

The writers of this Framework have included sample learning activities in the different strands. These activities may not provide an adequate idea of what quality student work might look like; therefore, some examples of quality student work have been included in this appendix.

The student work presented here must be accompanied by the following caveats:

1. This is quality work but not perfect work. The examples included here are to demonstrate what good students might be expected to do in response to certain performance tasks. It is expected that many teachers in Missouri schools could provide examples of quality student work and maybe requested to do so for a future publication.
2. Not all of the student work provided here is from Missouri students. As noted, some of the examples have been taken from the *Performance Standards - New Standards Consultation Draft* (1995) and from the Council of Chief State School Officers Collaborative on Student Health Assessments.
3. While every attempt was made to include a variety of tasks and products, the examples found here tend to over-represent certain Show-Me Standards and under-represent others. Another limitation is the inability to provide examples of student work that is not in a print format (for example projects, oral presentations, role plays, development of videos, etc.).

Despite these limitations, these exampies should give Missouri teachers a good idea of what their students should be able to do in response to the Show-Me Standards.

ELEMENTARY ACTIVITY FOR HEALTHY, ACTIVE LIVING

"The Incredible Human Machine: The Body"

Task

The following health concepts are important for students to learn in order to maintain and enhance their health and well-being:

- the ability to live, work and play depends upon the healthy functioning of body systems
- daily activities can affect body system functioning

After studying about the body systems, students were asked to develop a manual about the "Incredible Human Machine: The Body". Students were instructed to include the following information in their manual:

- a general operating guide (how each body system functions);
- a use and care section; and
- a trouble shooting guide describing factors that can affect each body system and how to prevent or manage these problems

Show-Me Knowledge Standards Addressed

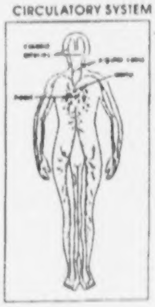
HP 1 structures of, functions of, and relationships among human body systems
HP 2 principles and practices of physical and mental health (such as personal health habits, nutrition, stress management
HP 3 diseases and methods for prevention, treatment and control
HP 4 principles of movement and physical fitness

Show-Me Performance Standards Addressed

1.10 apply acquired information ideas and skills to different content as students, workers, citizens and consumers
2.1 plan and make written oral and visual presentations for a variety of purposes and audiences
3.1 identify problems and define their scope and elements
4.1 explain reasoning and identify information used to support decisions
4.7 identify and apply practices that preserve and enhance the safety and health of self and others

Student Work

Troubleshooting Guide: Circulatory System



What affects the health of this body system?

Fatty food

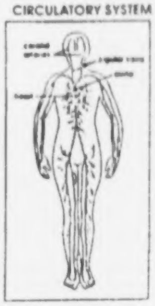
Taking drugs

Heathy parents

Exercise

Stress

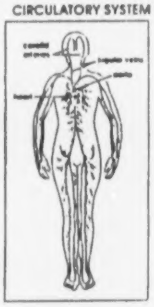
Operating Guide: Circulatory System



How does this body system function?

The heart pumps blood to all parts of the body. The blood caries oxygen and food. It removes waste from the cells.

Use and Care For: Circulatory System



What should be done to maintain the health of this system?

Eat good food

Walk 3X a week

Don't smoke

Don't take drugs

See the docter every year

Lot of rest

Commentary

These responses illustrate the student has an understanding of the basic functions of the circulatory system. The content is accurate and indicates the student understands the affect of certain behaviors on proper functioning of the circulatory system, i.e., diet, exercise, stress, smoking. The inclusion of seeing a doctor every year also indicates an understanding of the importance of preventive health measures.

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ELEMENTARY ACTIVITY FOR HEALTHY, ACTIVE LIVING

"Learning Fundamental Sports Skills"

Task

Students were given the task of demonstrating fundamental skills for a variety of activities. The development of fundamental skills allows for a competent level of participation in games. Students worked with the teacher(s) and with each other to analyze their skill ability and provide feedback to refine their skills. Opportunity for improvement or refinement is an important aspect of learning sports skills.

Show-Me Knowledge Standards Addressed

HP 4 principles of movement and physical fitness

Show-Me Performance Standards Addressed

1.6 discover and evaluate patterns and relationships in information, ideas and structures

1.10 apply acquired information, ideas and skills to different contexts as students, workers, citizens and consumers

4.7 identify and apply practices that preserve and enhance the safety and health of self and others

Student Work

223

Commentary

Fundamental skills form the foundation of human movement. Proper progress and correct technique are emphasized at every grade level. Using modified equipment such as a beach ball for a volleyball, allows students to experience more success while learning proper techniques. Informal practice of skills begins in the primary grades with emphasis on body coordination, basic ball handling skills, visual tracking skills and fundamental motor skills. Progression follows to lead-up games in the upper elementary grades and modified games in middle school. Sports promote development of sportsmanship, teamwork, competition, cooperation and fair play.

ELEMENTARY ACTIVITY FOR HEALTHY, ACTIVE LIVING

"Popcorn on a Parachute"

Task

Students were given the task of playing popcorn with the parachute. The purpose is to promote enjoyment of games while allowing for the development and application of movement skills and promoting socialization.

Show-Me Knowledge Standards Addressed

HP 4 principles of movement and physical fitness

Show-Me Performance Standards Addressed

1.10 apply acquired information, ideas and skills to different contexts as students, workers, citizens and consumers
4.5 develop, monitor and revise plans of action to meet deadlines and accomplish goals
4.6 identify tasks that require a coordinated effort and work with others to complete those tasks

Student Work

Commentary

Parachute activities are used primarily in the elementary grades. These activities provide an excellent cooperative group learning experience. The primary goals of parachute activities are to develop strength, agility, coordination and endurance, and to develop movement skills and rhythmic skills. Students are assessed on their ability to follow direction, work cooperatively and on their participation level in the activity.

MIDDLE SCHOOL ACTIVITY FOR HEALTHY, ACTIVE LIVING

"Tobacco as a Gateway Drug" *

Task

For this activity, students were to create a concept map showing how tobacco use may lead to the use of alcohol and other drugs. The concept map was to focus on the issue of tobacco as a "gateway" drug. Students were given a set of instructions including the definition of a concept map and information about why tobacco is considered a gateway drug. Then they were given the following instructions:

1) Make a list of the important concepts and/or ideas about tobacco as a gateway drug.
2) Arrange these concepts and/or ideas from the most general to the most specific. For example, drug use is a general concept while tobacco use is more specific.
3) Think about how the concepts connect or relate to each other. The map needs to show these relationships using lines drawn between the concepts.
4) Write a statement near each connecting line to explain the relationship shown by that line.

Show-Me Knowledge Standards Addressed

HP 5	methods used to assess health, reduce risk factors, and avoid high risk behaviors (such as violence, tobacco, alcohol and other drug use)
HP 6	consumer health issues (such as the effects of mass media and technologies on safety and health)

Show-Me Performance Standards Addressed

1.6	discover and evaluate patterns and relationships in information, ideas and structures
1.8	organize data, information and ideas into useful forms (including charts, graphs, outlines) for analysis or presentation
3.1	identify problems and define their scope and elements
3.5	reason inductively from a set of specific facts and deductively from general premises

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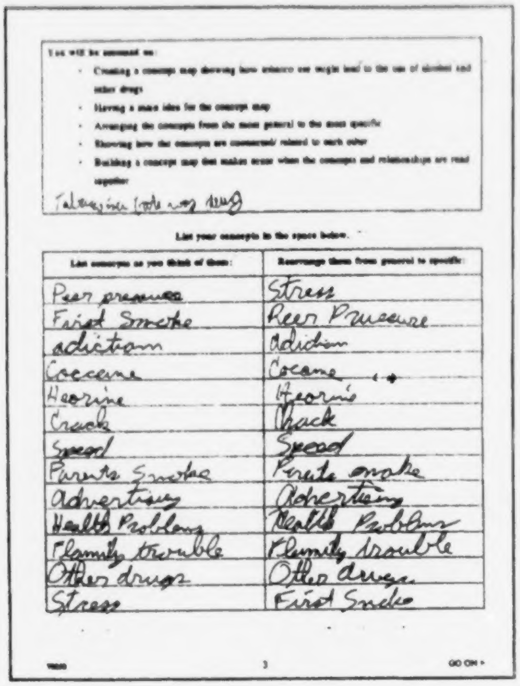
Health Education Project. Washington, D.C.: CCSSO-SCASS pp. 46-47.

Student Work



You will be assessed on:

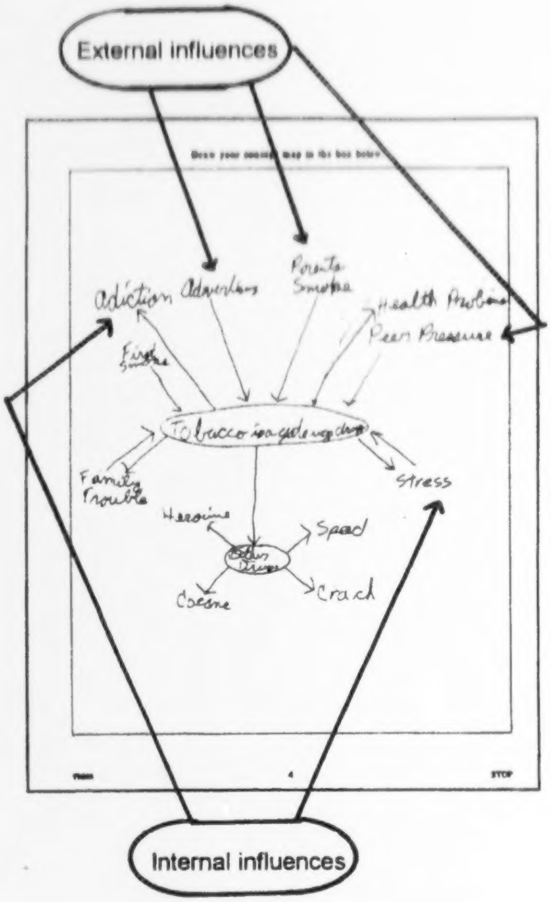
- Creating a concept map showing how tobacco use might lead to the use of alcohol and other drugs
- Having a main idea for the concept map
- Arranging the concepts from the most general to the most specific
- Showing how the concepts are connected/ related to each other
- Building a concept map that makes sense when the concepts and relationships are read together

Tabacco is a gate way drug

List your concepts in the space below.

List concepts as you think of them:	Rearrange them from general to specific:
Peer pressure	Stress
First Smoke	Peer Prussure
adictiom	Adiction
Coceine	Cocane
Heorine	Heorin
Crack	Crack
Speed	Speed
Parents Smoke	Parents smoke
advertising	Advertising
Health Problems	Health Problems
Flamily trouble	Flamily trouble
Other drugs	Other drugs
Stress	First Smoke

3 GO ON ►


External influences
Draw your concept map in the box below.
Adiction
Advertising
Parents Smoke
Health Problems
Peer Pressure
First Smoke
Tobacco is a gate way drug
Family Trouble
Stress
Heroine
Speed
Other Drugs
Cocane
Crack
4
STOP
Internal influences

Commentary

An acceptable student performance in constructing this concept map consists of two parts. First, the student should address the concept of tobacco as a gateway drug that may lead to the use of alcohol and other drugs. Second, the concept map should identify the relationship between concepts in a clear and coherent way.

The student's work shows evidence of the recognition that there are a variety of internal and external influences on personal, family and community health, such as peer pressure, stress, parents who smoke, advertising, family trouble, etc.

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MIDDLE SCHOOL ACTIVITY FOR HEALTHY, ACTIVE LIVING

"Nutrition and Dietary Guidelines" *

Task

Students were given the task of working for an advertising company which involved designating a public service poster promoting one of the U.S. Dietary Guidelines for Americans. They were asked to choose a targeted age level or group for the poster. In addition, they were to write a brief explanation about the following:

1) which of the dietary guidelines the poster addressed
2) who was the target audience
3) how they expected their message to appeal to the targeted audience
4) how the poster promoted healthier eating

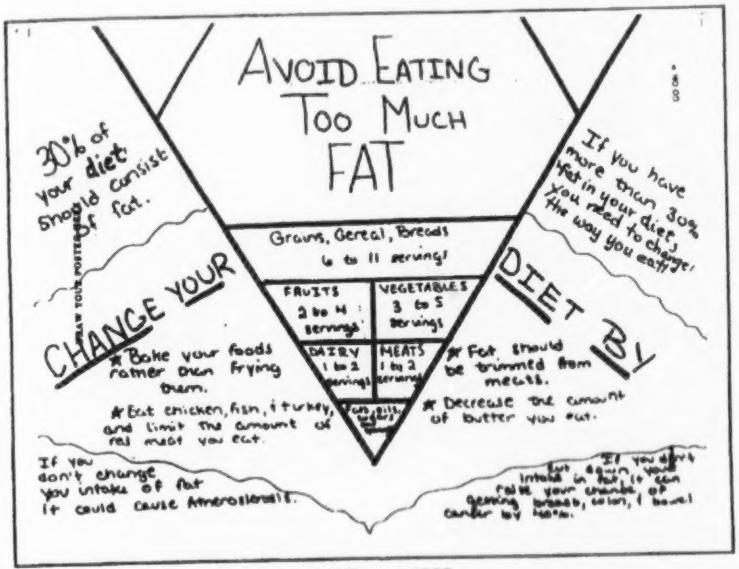
Show-Me Knowledge Standards Addressed

HP 2 principles and practices of physical and mental health (such as personal health habits, nutrition, stress management)

Show-Me Performance Standards Addressed

1.5 comprehend and evaluate written, visual and oral presentations and works
2.1 plan and make written oral and visual presentations for a variety of purposes and audiences
2.5 perform or produce works in the fine and practical arts
4.1 explain reasoning and identify information used to support decisions
4.7 identify and apply practices that preserve and enhance the safety and health of self and others

Student Work


AVOID EATING TOO MUCH FAT
30% of your diet should consist of fat.
If you have more than 30% fat in your diet, you need to change the way you eat.
Grains, Cereal, Breads 6 to 11 servings
FRUITS 2 to 4 servings
VEGETABLES 3 to 5 servings
DAIRY 1 to 2 servings
MEATS 1 to 2 servings
Fats, oils, sugars
CHANGE YOUR DIET BY
★ Bake your foods rather than frying them.
★ Eat chicken, fish, & turkey, and limit the amount of red meat you eat.
★ Fat should be trimmed from meats.
★ Decrease the amount of butter you eat.
If you don't change you intake of fat it could cause Atherosclerosis.
If you don't cut down your intake in fat, it can raise your chance of getting breast, colon, & bowel cancer by 40%.

Adapted with permission from the Council of Chief State School Officers. 1995. *Health Education Project*. Washington, D.C.: CCSSO-SCASS pp. 21.

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Use this space to describe your target audience and which guideline(s) your poster addresses. Explain how your poster promotes the guideline(s) through healthier eating, and how your message will appeal to your target audience.

My target audience for this poster are adults [illegible] In my poster it explains that if you keep on eating too much fat many things can happen to you.

My poster promotes that if you don't cut down your fat intake you could get arteriosclerosis, you could become obese, & your chance of breast, colon, bowel, & prostate cancer would increase by 40%.

This message could apeal to people ~~to~~ from the ages of 30 to 50, because it has bright colors & tells what could happen if you don't cut your intake in fat.

Commentary

The student's work is fairly complex, the content is accurate and indicates a comprehensive understanding of nutrition principles and practices. A clear relationship between nutrition and various aspects of health is described. Inverting the food pyramid is a unique way of displaying the dietary guidelines of lowering fat consumption.

The student's explanation of the poster includes all of the necessary requirements.

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MIDDLE SCHOOL ACTIVITY FOR HEALTHY, ACTIVE LIVING
"Lifetime Activities"

Task

Students were given the task of demonstrating fundamental skills for a variety of lifetime activities. The development of fundamental skills allows for a competent level of participation in lifetime sports activities.

Show-Me Knowledge Standards Addressed

HP 4	principles of movement and physical fitness

Show-Me Performance Standards Addressed

1.6	discover and evaluate patterns and relationships in information, ideas and structures
1.10	apply acquired information, ideas and skills to different contexts as students, workers, citizens and consumers
4.7	identify and apply practices that preserve and enhance the safety and health of self and others

Student Work

Commentary

Students develop fundamental skills in exploratory fashion and then progress to more structured game-like situations. Lifetime sports activities provide for development of fundamental skills, socialization, competition and the opportunity for a "lifetime of activity."

MIDDLE SCHOOL ACTIVITY FOR HEALTHY, ACTIVE LIVING

"Personal Fitness Plan"

Task

Students were given the task of establishing a fitness goal and keeping an exercise log for an eight week personal fitness unit. They were to record the date, the activity, the distance and time on log sheets to show the relationship between personal fitness programs, goal setting and the FIT Principle (Frequency, Intensity and Time) At the end of each week, students totaled their number of exercise hours for that week.

Key areas of goal setting emphasized throughout the instructional program were:
1) Put goals in writing
2) Establish short-term and long-term goals that are specific
3) Make goals realistic and achievable
4) Make goals measurable
5) Set target dates for achievement of goals

Show-Me Knowledge Standards Addressed

HP 2	principles and practices of physical and mental health (such as personal habits, nutrition, stress management)
HP 4	principles of movement and physical fitness
HP 5	methods used to assess health, reduce risk factors, and avoid high risk behaviors

Show-Me Performance Standards Addressed

1.6	discover and evaluate patterns and relationships in information, ideas and structures
1.8	organize data, information and ideas into useful forms (including charts, graphs, outlines) for analysis or presentation
4.5	develop, monitor and revise plans of action to meet deadlines and accomplish goals
4. 7	identify tasks that require a coordinated effort and work with others to complete those tasks

Student Work

WEEKLY GOAL Get in Shape

DAYS	DATE	ACTIVITY	DISTANCE	TIME
Monday	6-17	Ran bleachers Lifted weights	4 times	10:30 11:00-12:00
Tuesday	6-18	Ran bleachers Lifted weights	4 times	10:30 11:00-12:00
Wednesday	6-19	" "	"	" "
Thursday	6-20	" "	"	" "
Friday	6-14	WAVE Runner - Swimming	All over the lake	9:00 a.m to 8:00 p.m.
Saturday	6-15	Nothing - Rest		
Sunday	6-16	Nothing Rest		

TOTAL TIME 13 Hours

Commentary

The student's work appears to be accurate. While this illustration represents only one week of an eight week unit, it should be noted that goal setting becomes more specific as instruction continues. "Lifted weights" was part of the instructional weight training program. This log may be used at any grade level with the level of specificity increasing with the grade level and experience of the students.

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HIGH SCHOOL ACTIVITY FOR HEALTHY, ACTIVE LIVING

"An Interview With An Aspirin" *

Task

Students were asked to research the benefits and risks of common medications and write a report regarding their findings. This activity required students to identify commonly used medications and then demonstrate their ability to gather, analyze and apply information regarding the medication to their understanding body systems and disease prevention and control.

Writing the report required the students to demonstrate their ability to effectively communicate their understanding of health content and their findings. Another purpose of the activity was to give the students an understanding of the complexity of how substances affect body functioning and therefore health in general.

Show-Me Knowledge Standards Addressed

HP 1 structures of, functions of, and relationships among human body systems
HP 5 diseases and methods for prevention, treatment and control

Show-Me Performance Standards Addressed

1.2 conduct research to answer questions and evaluate information and ideas
1.10 apply acquired information ideas and skills to different contexts as students, workers, citizens and consumers
2.1 plan and make written, oral and visual presentations for a variety of purposes and audiences

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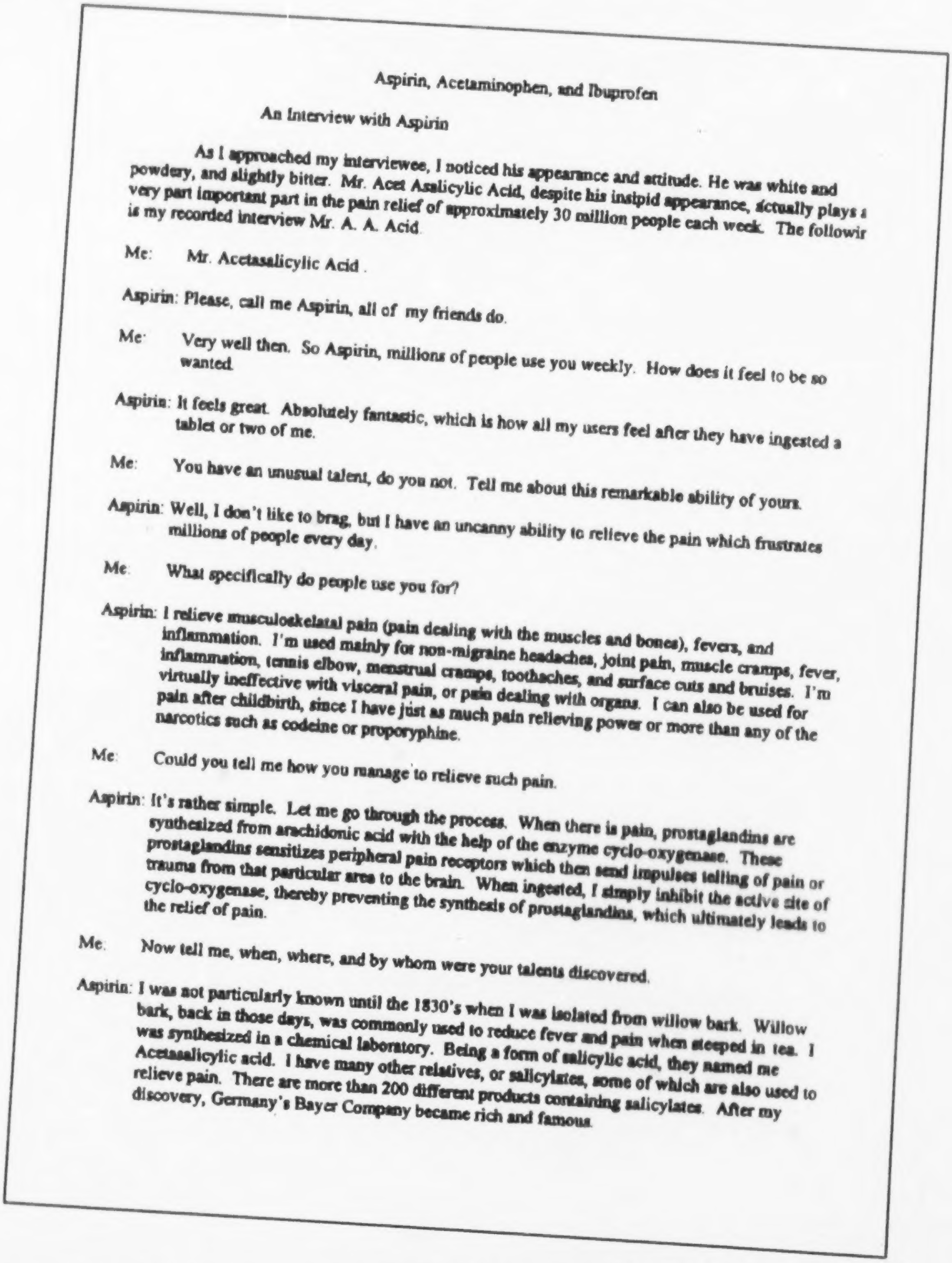
Student Work



Aspirin, Acetaminophen, and Ibuprofen

An Interview with Aspirin

As I approached my interviewee, I noticed his appearance and attitude. He was white and powdery, and slightly bitter. Mr. Acet Asalicylic Acid, despite his insipid appearance, actually plays a very part important part in the pain relief of approximately 30 million people each week. The followir is my recorded interview Mr. A. A. Acid.

Me: Mr. Acetasalicylic Acid .

Aspirin: Please, call me Aspirin, all of my friends do.

Me: Very well then. So Aspirin, millions of people use you weekly. How does it feel to be so wanted.

Aspirin: It feels great. Absolutely fantastic, which is how all my users feel after they have ingested a tablet or two of me.

Me: You have an unusual talent, do you not. Tell me about this remarkable ability of yours.

Aspirin: Well, I don't like to brag, but I have an uncanny ability to relieve the pain which frustrates millions of people every day.

Me: What specifically do people use you for?

Aspirin: I relieve musculoskelatal pain (pain dealing with the muscles and bones), fevers, and inflammation. I'm used mainly for non-migraine headaches, joint pain, muscle cramps, fever, inflammation, tennis elbow, menstrual cramps, toothaches, and surface cuts and bruises. I'm virtually ineffective with visceral pain, or pain dealing with organs. I can also be used for pain after childbirth, since I have just as much pain relieving power or more than any of the narcotics such as codeine or proporyphine.

Me: Could you tell me how you manage to relieve such pain.

Aspirin: It's rather simple. Let me go through the process. When there is pain, prostaglandins are synthesized from arachidonic acid with the help of the enzyme cyclo-oxygenase. These prostaglandins sensitizes peripheral pain receptors which then send impulses telling of pain or trauma from that particular area to the brain. When ingested, I simply inhibit the active site of cyclo-oxygenase, thereby preventing the synthesis of prostaglandins, which ultimately leads to the relief of pain.

Me: Now tell me, when, where, and by whom were your talents discovered.

Aspirin: I was not particularly known until the 1830's when I was isolated from willow bark. Willow bark, back in those days, was commonly used to reduce fever and pain when steeped in tea. I was synthesized in a chemical laboratory. Being a form of salicylic acid, they named me Acetasalicylic acid. I have many other relatives, or sallcylates, some of which are also used to relieve pain. There are more than 200 different products containing salicylates. After my discovery, Germany's Bayer Company became rich and famous.

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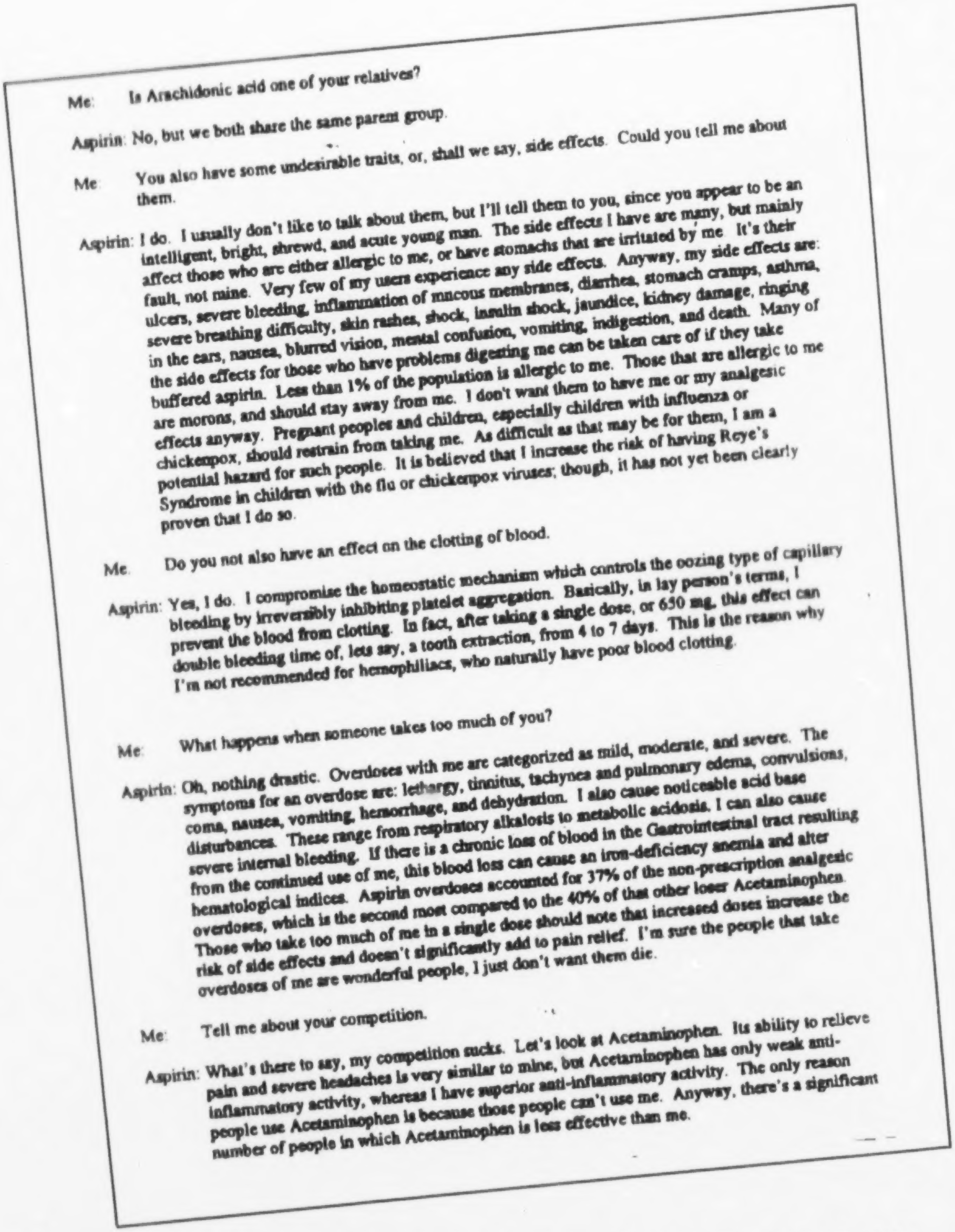

Me: Is Arachidonic acid one of your relatives?

Aspirin: No, but we both share the same parent group.

Me: You also have some undesirable traits, or, shall we say, side effects. Could you tell me about them.

Aspirin: I do. I usually don't like to talk about them, but I'll tell them to you, since you appear to be an intelligent, bright, shrewd, and acute young man. The side effects I have are many, but mainly affect those who are either allergic to me, or have stomachs that are irritated by me. It's their fault, not mine. Very few of my users experience any side effects. Anyway, my side effects are: ulcers, severe bleeding, inflammation of mucous membranes, diarrhea, stomach cramps, asthma, severe breathing difficulty, skin rashes, shock, insulin shock, jaundice, kidney damage, ringing in the ears, nausea, blurred vision, mental confusion, vomiting, indigestion, and death. Many of the side effects for those who have problems digesting me can be taken care of if they take buffered aspirin. Less than 1% of the population is allergic to me. Those that are allergic to me are morons, and should stay away from me. I don't want them to have me or my analgesic effects anyway. Pregnant peoples and children, especially children with influenza or chickenpox, should restrain from taking me. As difficult as that may be for them, I am a potential hazard for such people. It is believed that I increase the risk of having Reye's Syndrome in children with the flu or chickenpox viruses; though, it has not yet been clearly proven that I do so.

Me: Do you not also have an effect on the clotting of blood.

Aspirin: Yes, I do. I compromise the homeostatic mechanism which controls the oozing type of capillary bleeding by irreversibly inhibiting platelet aggregation. Basically, in lay person's terms, I prevent the blood from clotting. In fact, after taking a single dose, or 650 mg, this effect can double bleeding time of, lets say, a tooth extraction, from 4 to 7 days. This is the reason why I'm not recommended for hemophiliacs, who naturally have poor blood clotting.

Me: What happens when someone takes too much of you?

Aspirin: Oh, nothing drastic. Overdoses with me are categorized as mild, moderate, and severe. The symptoms for an overdose are: lethargy, tinnitus, tachynea and pulmonary edema, convulsions, coma, nausea, vomiting, hemorrhage, and dehydration. I also cause noticeable acid base disturbances. These range from respiratory alkalosis to metabolic acidosis. I can also cause severe internal bleeding. If there is a chronic loss of blood in the Gastrointestinal tract resulting from the continued use of me, this blood loss can cause an iron-deficiency anemia and alter hematological indices. Aspirin overdoses accounted for 37% of the non-prescription analgesic overdoses, which is the second most compared to the 40% of that other loser Acetaminophen. Those who take too much of me in a single dose should note that increased doses increase the risk of side effects and doesn't significantly add to pain relief. I'm sure the people that take overdoses of me are wonderful people, I just don't want them die.

Me: Tell me about your competition.

Aspirin: What's there to say, my competition sucks. Let's look at Acetaminophen. Its ability to relieve pain and severe headaches is very similar to mine, but Acetaminophen has only weak anti-inflammatory activity, whereas I have superior anti-inflammatory activity. The only reason people use Acetaminophen is because those people can't use me. Anyway, there's a significant number of people in which Acetaminophen is less effective than me.

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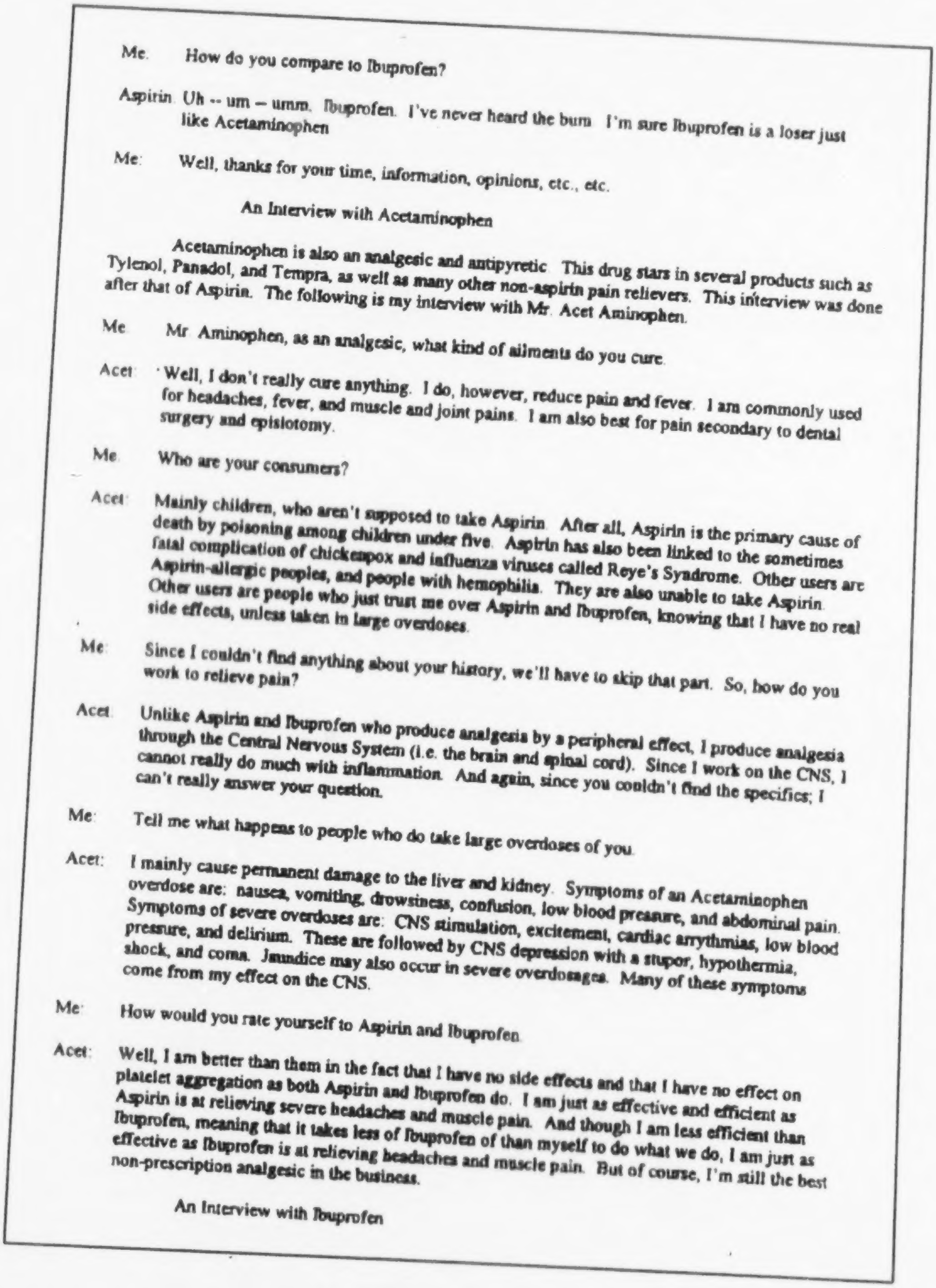

Me. How do you compare to Ibuprofen?

Aspirin Uh -- um -- umm. Ibuprofen. I've never heard the bum. I'm sure Ibuprofen is a loser just like Acetaminophen

Me: Well, thanks for your time, information, opinions, etc., etc.

An Interview with Acetaminophen

Acetaminophen is also an analgesic and antipyretic. This drug stars in several products such as Tylenol, Panadol, and Tempra, as well as many other non-aspirin pain relievers. This interview was done after that of Aspirin. The following is my interview with Mr. Acet Aminophen.

Me Mr. Aminophen, as an analgesic, what kind of ailments do you cure.

Acet: Well, I don't really cure anything. I do, however, reduce pain and fever. I am commonly used for headaches, fever, and muscle and joint pains. I am also best for pain secondary to dental surgery and episiotomy.

Me. Who are your consumers?

Acet: Mainly children, who aren't supposed to take Aspirin. After all, Aspirin is the primary cause of death by poisoning among children under five. Aspirin has also been linked to the sometimes fatal complication of chickenpox and influenza viruses called Reye's Syndrome. Other users are Aspirin-allergic peoples, and people with hemophilia. They are also unable to take Aspirin. Other users are people who just trust me over Aspirin and Ibuprofen, knowing that I have no real side effects, unless taken in large overdoses.

Me: Since I couldn't find anything about your history, we'll have to skip that part. So, how do you work to relieve pain?

Acet: Unlike Aspirin and Ibuprofen who produce analgesia by a peripheral effect, I produce analgesia through the Central Nervous System (i.e. the brain and spinal cord). Since I work on the CNS, I cannot really do much with inflammation. And again, since you couldn't find the specifics; I can't really answer your question.

Me: Tell me what happens to people who do take large overdoses of you.

Acet: I mainly cause permanent damage to the liver and kidney. Symptoms of an Acetaminophen overdose are: nausea, vomiting, drowsiness, confusion, low blood pressure, and abdominal pain. Symptoms of severe overdoses are: CNS stimulation, excitement, cardiac arrythmias, low blood pressure, and delirium. These are followed by CNS depression with a stupor, hypothermia, shock, and coma. Jaundice may also occur in severe overdosages. Many of these symptoms come from my effect on the CNS.

Me: How would you rate yourself to Aspirin and Ibuprofen.

Acet: Well, I am better than them in the fact that I have no side effects and that I have no effect on platelet aggregation as both Aspirin and Ibuprofen do. I am just as effective and efficient as Aspirin is at relieving severe headaches and muscle pain. And though I am less efficient than Ibuprofen, meaning that it takes less of Ibuprofen of than myself to do what we do, I am just as effective as Ibuprofen is at relieving headaches and muscle pain. But of course, I'm still the best non-prescription analgesic in the business.

An Interview with Ibuprofen

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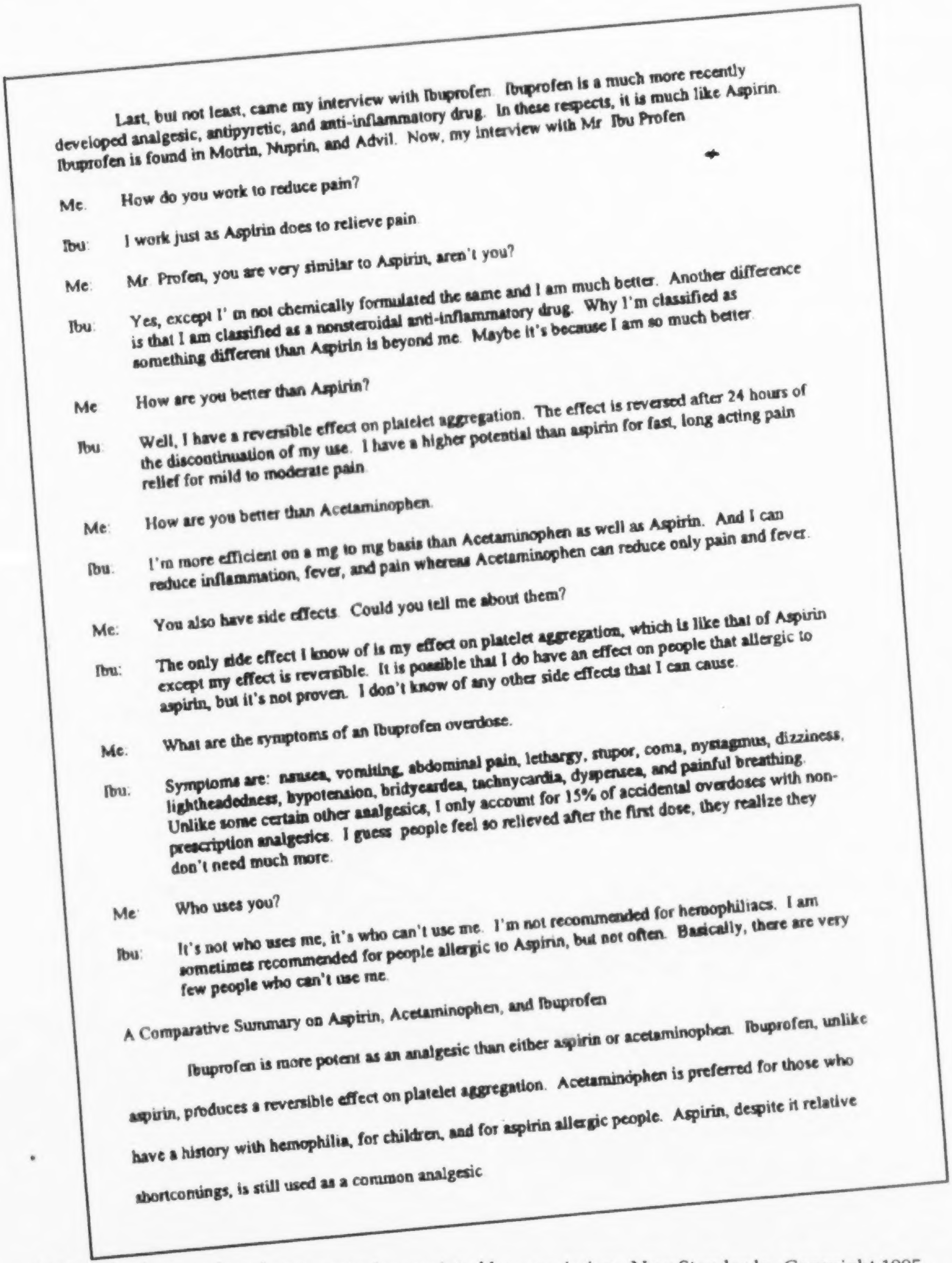

Last, but not least, came my interview with Ibuprofen. Ibuprofen is a much more recently developed analgesic, antipyretic, and anti-inflammatory drug. In these respects, it is much like Aspirin. Ibuprofen is found in Motrin, Nuprin, and Advil. Now, my interview with Mr Ibu Profen

Me. How do you work to reduce pain?

Ibu: I work just as Aspirin does to relieve pain.

Me: Mr Profen, you are very similar to Aspirin, aren't you?

Ibu: Yes, except I' m not chemically formulated the same and I am much better. Another difference is that I am classified as a nonsteroidal anti-inflammatory drug. Why I'm classified as something different than Aspirin is beyond me. Maybe it's because I am so much better.

Me How are you better than Aspirin?

Ibu: Well, I have a reversible effect on platelet aggregation. The effect is reversed after 24 hours of the discontinuation of my use. I have a higher potential than aspirin for fast, long acting pain relief for mild to moderate pain.

Me: How are you better than Acetaminophen.

Ibu: I'm more efficient on a mg to mg basis than Acetaminophen as well as Aspirin. And I can reduce inflammation, fever, and pain whereas Acetaminophen can reduce only pain and fever.

Me: You also have side effects. Could you tell me about them?

Ibu: The only side effect I know of is my effect on platelet aggregation, which is like that of Aspirin except my effect is reversible. It is possible that I do have an effect on people that allergic to aspirin, but it's not proven. I don't know of any other side effects that I can cause.

Me: What are the symptoms of an Ibuprofen overdose.

Ibu: Symptoms are: nausea, vomiting, abdominal pain, lethargy, stupor, coma, nystagmus, dizziness, lightheadodness, hypotension, bridyeardea, tachnycardia, dyspensea, and painful breathing. Unlike some certain other analgesics, I only account for 15% of accidental overdoses with non-prescription analgesics. I guess people feel so relieved after the first dose, they realize they don't need much more.

Me: Who uses you?

Ibu: It's not who uses me, it's who can't use me. I'm not recommended for hemophiliacs. I am sometimes recommended for people allergic to Aspirin, but not often. Basically, there are very few people who can't use me.

A Comparative Summary on Aspirin, Acetaminophen, and Ibuprofen

Ibuprofen is more potent as an analgesic than either aspirin or acetaminophen. Ibuprofen, unlike aspirin, produces a reversible effect on platelet aggregation. Acetaminophen is preferred for those who have a history with hemophilia, for children, and for aspirin allergic people. Aspirin, despite it relative shortcomings, is still used as a common analgesic

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Commentary

The construction of the interview questions frames the topic in a way that allows an explanation of each medication to be given in depth. Careful attention to details as important as the effects of overdoses provides an explanation of an important concept in substance prevention. The report covers a range of information from uses to benefits and risks, giving a complete explanation and summarizing varied sources of information. It does not, however, consider the possible biases of these sources of information (from a pharmaceutical company).

The report required a conceptual understanding of the behavior of organisms and the nervous system. Examples include the discussions of the effect of aspirin on clotting and bleeding, and the explanation of analgesia and acetaminophen overdose. The understanding that human systems are regulated by the production of certain chemicals is consistent with the explanations throughout the report, though there is no evidence of understanding of the biological processes involved which would be indicative of a health/science integration.

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HIGH SCHOOL ACTIVITY FOR HEALTHY, ACTIVE LIVING

"Outdoor Pursuits and Lifetime Activities"

Task

Students were given the task of demonstrating skill techniques, application of sports terms, etiquette, and safety principles for selected outdoor pursuits. The purpose of the task is to promote enjoyment of outdoor pursuits as a lifelong activity as well as developing environmental awareness and survival skills.

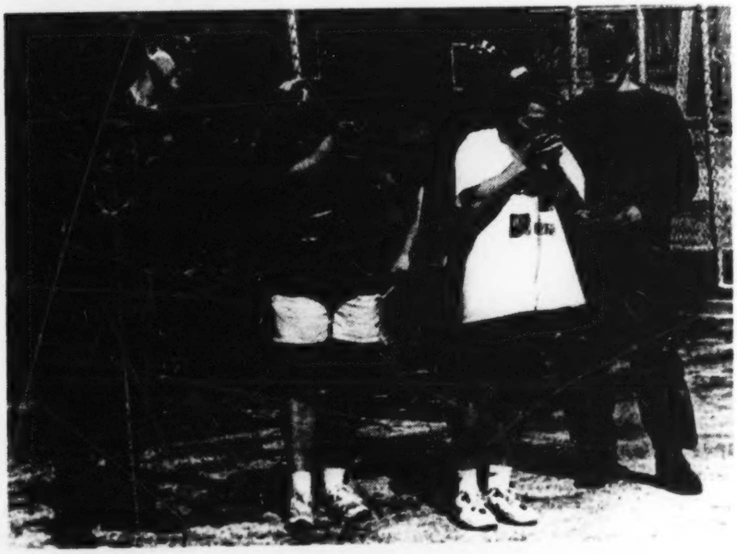
Show-Me Knowledge Standards Addressed

HP 2	principles and practices of physical and mental health (such as personal health habits, nutrition, stress management)
HP 4	principles of movement and physical fitness
HP 7	responses to emergency situations

Show-Me Performance Standards Addressed

1.3	design and conduct field and laboratory investigations to study nature and society
1.6	discover and evaluate patterns and relationships in information, ideas and structures
1.10	apply acquired information, ideas and skills to different contexts as students, workers, citizens and consumers
3.5	reason inductively from a set of specific facts and deductively from general premises
3.7	evaluate the extent to which a strategy addresses the problem
3.8	assess costs, benefits and other consequences of proposed solutions
4.1	explain reasoning and identify information used to support decisions
4.6	identify tasks that require a coordinated effort and work with others to complete those tasks
4.7	identify and apply practices that preserve and enhance the safety and health of self and others

Student Work



Commentary

Outdoor pursuits provide an excellent opportunity for hands-on learning experiences in mechanical and anatomical principles and etiquette in the out-of-doors. While conditioning and implementing safety principles, students develop skills in a variety of lifetime outdoor pursuits.

APPENDIX B

SAMPLE SCOPE AND SEQUENCE FOR
HEALTH EDUCATION AND PHYSICAL EDUCATION,
DEVELOPMENTALLY APPROPRIATE
PHYSICAL EDUCATION PRACTICES FOR CHILDREN
AND
EXEMPLARY PHYSICAL EDUCATION PROGRAM

SAMPLE HEALTH EDUCATION SCOPE & SEQUENCE

KEY: I - Introduction
E - Emphasis
R - Reinforce

Content Areas	**Grades K-2**	**3-5**	**6-8**	**9-12**
Body Systems				
Five Senses	I	E-R		
Musculoskeletal	I	E		E-R
Integumentary (Skin)	I	E		R
Cardiovascular	I	E		R
Respiratory	I	E		
Nervous	I	E	R	
Digestive	I	E		R
Excretory		I	E	R
Endocrine		I	E	R
Reproductive		I	E	R
Immune		I	E	R
Personal Behaviors & Habits that Affect Body System Functions	I	E	R	R
Growth & Development		I	E	R
Fetal Development & Birth			I-E	E-R
System Interactions & Interrelationships			I-E	E-R
Social Systems				
Influence of family & peers on health habits & decisions	I	I-E	E-R	R
Responsibilities in Society	I	I-E	E	R
Community Helpers	I	E		R
Communication Skills	I		E	R
Cooperative & Social Skills	I	E		R
Defense Mechanisms		I	E	R
Group Dynamics			I-E	E-R
Health Care Systems			I-E	E-R
Health-Related Careers			I-E	E-R
Personal and Family Health				
Personal Health Behaviors	I	E	E-R	R
Personal Hygiene	I	E	E-R	R
Preventive Care	I	E	E-R	R
Changes Throughout the Life Cycle		I	E	R
Health and Skill Related Fitness (including benefits)			I-E	E-R
Healthy Relationships			I-E	E-R
Factors Related to Teen Pregnancy & Family Planning			I-E	E-R

Nutrition				
Basic Principles				
Key Nutrients		I	E	E-R
Food Sources	I	I-E	E	R
Food Pyramid & Grouping	I	I-E	E	R
Balance, Variety & Moderation		I	E	R
Food Energy		I	I-E	E-R
Food Choices		I	E	R
Body Image and Eating Disorders			I	E-R
Food Labels		I	E	R
Meal Planning		I	E	E-R
Food Safety			I-E	E-R
Diet & Exercise Relationship			I-E	E-R
Nutrient Needs throughout the Life Cycle			I-E	E-R
Consumer Health				
Media Influence on Health Habits and Decisions	I	I-E	E	R
InterpretingLlabels		I	E	R
Communication & Advertising techniques		I-E	E	R
Consumer Rights			I-E	E-R
Consumer Issues (fads/quackery)			I-E	E-R
Analysis of Health Information			I-E	E-R
Life Management Skills				
Basic Skills				
Decision making	I	I	E	R
Problem solving	I	I	E	R
Goal setting		I	E	E-R
Refusal Skills		I	E	R
Assertive			I-E	E-R
Coping			I-E	E-R
Stress	I	E	E	E-R
Health Related Careers			I	R
Disease Prevention and Control				
Communicable vs. Non-communicable		I	E	R
Behaviors & Practices that Speed Recovery & Prevent or Reduce Diseases	I	I	E	R
Body's Defenses		E	I-E	E-R
Types of Pathogens & Transmission		I	I-E	E-R
Risk Factors for Non-Communicable		I	I-E	E-R
Early Diagnosis & Interventions for Non-Communicable		I	I-E	E-R
Adolescent Health Issues			I-E	E-R
Sexually Transmitted Diseases			I-E	E-R
Abstinence & Prevention Behaviors			I-E	E-R
Methods of Conception Control			I	E-R

Self Exam			I	E
Scientific Process			I	E-R
Management & Prevention of Chronic Diseases			I	E-R
Historical Perspective			I-E	R
Injury Prevention & Safety				
Safety Conditions at Home, School & Neighborhoods	I	I	E	R
Assessment of Environmental Safety Issues		I	E	R
Basic First Aid Procedures	I	I	E	R
Obtaining Emergency Assistance	I	E	E-R	R
Sports Related Injuries			I	E-R
Avoidance of Sexual Harassment, Abuse & Exploitation				E-R
Advanced Emergency Techniques (Heimlich, Splinting, etc.)			I	E-R
Water-Related Emergencies			I	E-R
Tobacco, Alcohol & Other Drugs				
Safe & Unsafe Oral Substances	I-E	R		
Purpose of Medicines	I	I-E	E	R
Effects on the Body	I	I-E	E	R
Factors Affecting Use vs Non-use		I-E	E	R
Healthy Alternatives		I	E	R
Guidelines for Prescription & OTC		I	E	R
Effects on Society			I	E-
Assessing Risk of Chemical Dependency			I	E-R
Effects of Steroids			I	ER
Effects TAOD on Fetal Development			I	E-R
Environmental Health				
Effects of Pollution on Health		I	E	R
Promotion & Protection		I	E	R
Individual Responsibility		I	E	R
Conditions that Cause or Exacerbate Health Problems			I	E-R

Note: Districts need to determine what will be taught and for how long it will be taught at each grade level and then develop a Scope and Sequence accordingly. The example that has been provided is not grade specific but by grade ranges. Where there is an I-E, it means that the content should be introduced at the lowest grade level and emphasized at the highest within the stated grade range. Likewise, E-R means that the content would be emphasized at the lowest grade level and reinforced at the highest level within the stated grade range. This example has been provided to indicate how content should spiral up through the grade levels.

SAMPLE PHYSICAL EDUCATION SCOPE AND SEQUENCE

KEY: I - Introduction
E - Emphasis
R - Reinforce

Content Areas:	K-3	4	5	6	7	8	9-12
I. Fundamental Movement Skills							
Locomotor	I-E	R	R	R			
Non-locomotor	I-E	R	R	R			
Manipulative	I-E	R	R	R			
Balance	I-E	R	R	R			
II. Movement Concepts	I-E	R	R	R			
Body Awareness	I-E	R	R	R			
Spatial Awareness	I-E	R	R	R			
Qualities of Movement	I-E	R	R	R			
Relationships	I-E	R	R	R			
III. Developmental Games/Activities							
Individual and Partner Activities	I-E	R	R				
Small Group Games/Relays	I-E	R	R				
Whole Class Games	I-E	R	R				
Lead-Up Games	I	E	E	E			
IV. Sports Skills and Lifetime Activity							
Individual and Dual		I	R	R	E	E	E
Team		I	R	E	E	E	R
Outdoor Pursuits	I	R	E	E	E	E	E
*Gymnastics: stunts/tumbling	I	E	E	E	R	R	R
apparatus	I	E	E	E	R	R	R
*Aquatics		I	E	E	E	E	E-R

***Gymnastics and aquatics should be offered where facilities permit and the activity is district approved.**

Content Areas:	K-3	4	5	6	7	8	9-12
V. Rhythms and Dance							
Rhythmical Activities	I-E	R	R	R			
Creative/Interpretive	I-E	R	R	R	R	R	E
Folk	I	E	E	E			
Square	I	E	E	E	R	R	R
Social			I	I	E	E	R
VI. Personal Fitness/Healthy Active Living							
Body Composition	I-R	E	E	E	E	E	R
Cardiovascular Endurance	I-E	E	E	E	E	E	E
Flexibility	I-R	E	E	E	E	E	E
Muscular Strength	I-R	E	E	E	E	E	E
Muscular Endurance	I-R	E	E	E	E	E	E
Responsible Personal and Social Behavior in Physical Activity Setting	I-E	E	E	E	E	E	R
Injury Prevention/Treatment and Rehabilitation	I-E	E	E	E	E	E	R

The content areas are presented sequentially and may be offered earlier or later depending on the experience of the students involved and the facilities available.

DEVELOPMENTALLY APPROPRIATE PHYSICAL EDUCATION PRACTICES FOR CHILDREN*

In any discussion of physical education programs for children there are three major premises that need to be understood.

1. Physical education and athletic programs have different purposes.

Athletic programs are essentially designed for youngsters who are eager to specialize in one or more sports and refine their talents in order to compete with others of similar interest and abilities. Developmentally appropriate physical education programs, in contrast, are designed for every child from the physically gifted to the physically challenged. The intent is to provide children of all abilities and interests with a foundation of movement experiences that will eventually lead to active and healthy lifestyles athletic competition may be one part of this lifestyle, but is not the only part.

2. Children are not miniature adults.

Children have very different activities, needs and interests than adults. It is inadequate simply to "water down" adult sport or activity programs and assume that they will be beneficial. Children need, and learn from, programs that are designed specifically with their needs and differences in mind.

3. Children in school today will not be adults in today's world.

More than ever before we are in a time of rapid change. Consequently, educators have the challenge of preparing children to live as adults in a world that has yet to be clearly defined and understood. The only certainty is that they will have different opportunities and interests than currently exists. Contemporary programs introduce children to the world of today, while also preparing them to live in the uncertain world of tomorrow. In brief, they help them learn how to learn and to enjoy the process of discovering and exploring new and different challenges in the physical domain.

Tomorrow's physical activities may look quite different from today's. Present programs need to prepare children with basic movement skills that can be used in any activity, whether it be popular today or yet to be invented. Mastery of basic skills encourages the development and refinement of more complex skills leading to the ultimate enjoyment of physical activity for its own sake.

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*A position statement of the National Association for Sport and Physical Education (AAHPERD) developed by the Council on Physical Education for Children. 1992. Reprinted by permission.

EXEMPLARY PHYSICAL EDUCATION PROGRAM

Schools with exemplary physical education programs are recognized annually by the Missouri Association for Health, Physical Education, Recreation and Dance (MAHPERD), the Governor's Council on Physical Fitness and Health, and the Missouri Department of Elementary and Secondary Education.

Criteria for Exemplary Program

1. There are written policies and procedures for organization and administration of the program which might include:
   a. dress code
   b. medical exclusion
   c. emergency care and accident reporting
   d. equipment safety
   e. substitute teachers
   f. others which relate to operating a quality physical education program

2. There is a written curriculum guide that includes:
   a. a scope and sequence of activities based on the program goals and objectives
   b. performance indicators appropriate for all students.
   c. activities and resources to meet program objectives and student's needs

3. All faculty teaching physical education hold a valid Missouri teaching certificate in physical education for the educational level in which they teach.

4. Students receive a grade in physical education based on individual assessments of psychomotor and cognitive areas, and objective measures of achievement and improvement.

5. Fitness assessments is an ongoing process of helping students understand, improve and/or maintain their physical health and well-being; and the results and suggestions for improvement, in needed areas, are reported to the students and their parents/guardians.

6. Activities are designed to emphasize the psychomotoror, cognitive and affective development of the students.

7. The program is based on the characteristics and interests of the students and contains a wide variety of appropriately sequenced activities to meet the individual needs of all students and allows for optimal progression.

8. All faculty teaching physical education have within the past three years attended a physical education workshop, conference/convention and or/ completed a graduate physical education course.

9. Amount of time scheduled for the phsycial education program:
   a. Elementary students meet 1 to 3 times a week, exclusive of recess, for a length of time appropriate for the developmental level of the children.
   b. Middle/junior high students meet at least three times a week each semester for one period equivalent to that of other instructional areas.

c. Senior high students attend a class that meets at least 3 times a week each semester for a minimum of one and a half years and is equivalent in length of time to that of other instructional areas.

10. Facilities are provided indoors and outdoors which allow the students adequate space to move freely and safely.

11. An adequate amount of properly sized equipment is available so that each student benefits from maximum participation.

12. The curriculum guide, and all activities taught in the physical education classes, has been approved by the Board of Education and is regularly reviewed, evaluated and updated.

13. All faculty teaching phsyical education hold current membership in a physical education professional organization such as MAHPERD and/or AAHPERD.

14. The average class size per teacher in physical education is equivalent to the average class size per teacher in other instructional areas.

15. At the senior high level, at least 50% of the students in grades 10, 11 and 12 who have completed the state graduation requirements in physical education are enrolled in an elective class in physical education.

16. Students are not excused from the physical education program because of participation in athletics, band, ROTC and/or other similar activities.

17. Adaptive physical education is provided at all levels for students who need special instruction or can not participate in the regular physical education program due to a handicapping condition.

For further information contact:
Dr. Kathleen Kinderfather, Executive Secretary
Missouri Association for Health, Physical Education, Recreation and Dance
15 E. Jackson Rd.
Webster Groves, MO 63119

Dear Users of *Missouri's Framework for Curriculum Development in*_____________:
(subject)

We hope that this framework has been helpful to you in developing local curriculum aligned with The Show-Me Standards. Please take a few minutes to give the Department of Elementary and Secondary Education comments concerning your use of this document.

1. How did you use this framework? (Explain process.)

2. What parts of the framework were most helpful and why?

3. What suggestions do you have that would help make future versions of this document more useful?

4. If you have specific suggestions concerning certain pages, please indicate those page numbers and explain. Use the back of the page, if necessary.

Important Note:

By the end of the 1996-97 school year, we would also like to publicize Missouri students' quality work at elementary, middle and high school levels related to the Show-Me Standards. As you and other teachers in your district continue to develop performance-based activities/ assessments, please collect samples of quality student work. Samples submitted to DESE should follow the format in Appendix A of the framework.

Please return this sheet with your name and address to the Department of Elementary and Secondary Education, Curriculum Services, PO Box 480, Jefferson City, MO 65102. Call 573-751-2625 for more information concerning submissions of quality student work.

Missouri Department of Elementary and Secondary Education
P.O. Box 480
Jefferson City, Missouri 65102-0480

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